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THE PROGRESS OF MEDICINE*

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It is with a feeling of pleasure, indeed, that I assume the presidency of this organization. My teaching as to the benefits to be derived from organized medicine came in the early days of my medical career, and from no less a teacher than our dear departed friend, Dr. J. N. McCormack of Bowling Green, Kentucky, for years national organizer for the American Medical Association. I had been practicing my profession but a few short months in southern Indiana when I discovered that the county possessed no local medical society. At a called meeting in my office a short time afterwards, one was formed, small it is true, for there were not many physicians within the county—but we were active, and despite the bad roads and worse weather conditions, managed to get together at least once a month. Our affiliation with the state association was a forward step, and it was the writer's pleasure, while still a very young man, to hold various important offices in our state association.

Locating in Tulsa in the fall of 1905, I again found a county without a medical society, and again it was my privilege to bring about the organization of a county society. Attending my first state association meeting in 1906 at Shawnee, it was my good fortune to meet the leading men of the state of Oklahoma in my chosen profession, and I see before me tonight, men whom it was my pleasure to meet in those early days, and whom I have numbered as my friends through these many years. It has ever been my endeavor to attend all state meetings of this association, and I have been honored by many important offices in the same. I was indeed pleased when the delegates at our meeting in Tulsa saw fit to elevate me to the presidency and futile at the most would be any effort upon my part to attempt to thank them for this honor. I hope by my acts to merit the confidence you have placed in me, and my constant endeavor during my term of office shall be the upbuilding and improvement of our association.

One of the first duties of the president of this organization is to prepare and deliver an address before his colleagues and the public who are sufficiently interested to attend. In attempting to formulate a subject for this address my mind kept retrospectively glancing back over the years and the accomplishments thereof, of the profession of which I have, in my humble way been a part. Thus it was that the subject, "The Progress of Medicine," occurred to me, for we who sit here tonight have been privileged to practice in the greatest age medicine has ever known. In the opinion of the writer, greater progress has been made in the past thirty years than in any three hundred years previously.

Ante-dating our period, a few outstanding events must be considered. The discovery of chloroform and ether banished pain and suffering and transformed the operating room from a chamber of torture—so much so that our dearly beloved fellow physician, Dr. S. Weir Mitchell was prompted to write this beautiful poem:

"Whatever triumph yet shall hold the mind,
Whatever gifts shall yet enrich mankind,
Ah, here, no hour shall strike through all the years,
No hour so sweet as when hope, doubts and fears,
'Mid deepening silence, watched one eager brain,
With God-like will, decree the death of pain."

Lord Lister, a few years later, gave surgery his antiseptic methods of treatment, and erysipelas, gangrene and blood poisoning in all its forms, no longer presented the grim spectre that unnerved the operator and made surgery so dreaded by the laity. With instruments of precision coming into vogue about this time, along with more scientific laboratory methods, the guess was taken out of diagnosis. Roentgen had perfected his X-ray machine and improved the technique, so that we knew whereof we spoke, when a hitherto un-

*President's Address, 37th. Annual Session. Oklahoma City, May 27-29, 1929.

known problem presented itself to us. The introduction of diphtheria anti-toxin at about the time I began my first internship, gave us a reliable and dependable agent that we were far too slow or skeptical to adopt.

Full well do I remember the apprehension attendant upon my first administration of this preventive measure, and the enthusiasm of my medical colleagues and the highly interested populace when the experiment, for such it was, proved a success. And I am proud to say tonight that I am not yet beyond the experimental age. When we become so full of complacence that we feel that we no longer need the advice of others, to counsel or experiment, our usefulness as a member of this profession has ceased. Think of the years some of our most noted research workers have given to a single subject and how gladly they have passed the information on to others when they have achieved their goals.

In our hospital routine we come in contact with the younger men in the profession, eager to profit by our experience, and it is our pleasure to aid them in the essentials of diagnosis and treatment. We are training better doctors, teaching them to use their own brains and to make use of the senses with which nature has endowed them.

The laboratory, with its trained technicians, has created an undeniable place in the progress of medicine—the minority group, if you will, yet to the untiring zeal and persistence of these we owe much of our present day knowledge and methods of combatting disease. Long, Morton, Jackson and Simpson did not discover the value of anesthetics in a day. Jenner and Harvey wrought many long years to perfect their technique and instill into a doubting majority, a belief in their theories. Stephen Hales, a country preacher, with a quill in a blood vessel of his favorite horse's neck, was not promulgating in his own mind any scientific idea; yet from his crude method of treatment for obscure equine disturbance has come an instrument of precision that is in daily use by the average practitioner. We clinicians are inclined at times, I fear, to place too much credence upon laboratory findings. There exists a need of closer co-operation between the laboratory and the clinician. A close physical proximity to each other will be of mutual benefit. True, we find in the highly specialized laboratory worker, often, the need of a more practical medical background, and a little more technical knowledge might prove of benefit to the man in general medicine. All knowledge is of practical importance, the only point to remember is that some knowledge is more immediately practical than other knowledge.

So with a more closely connected action, scientific medicine will make more rapid strides, all of which will redound to the benefit of those who seek our counsel. True, some of our most startling achievements in the period of which I speak have been accomplished in the laboratory. I need but mention the names of Noguchi, Rosenow, Banting, George F. and Gladys Dick and my hearers among the medical fraternity at once associate these names with some recent discovery that spells "Progress in Medicine."

Serums and vaccines, many and varied, are now a part of our armamentarium. This phase, however, has been so commercialized that I hesitate to name any particular agent. However, we all recognize the far-reaching effect of typhoid immunization. The horrors of field hospitals and army camps have disappeared since their prophylactic administration. Rabies vaccine and anti-tetanic serum are known and used by all and no one denies their efficacy. Anti-streptococcic and anti-meningeal vaccines are also fast finding a place of confidence with the profession. Many are of doubtful virtue and are exploited by their manufacturers from a strictly commercial point of view. Research workers have yet to isolate a definite organism for many of the most infectious diseases, such as mumps, measles, chicken-pox small-pox, sleeping sickness, etc., and yet known by us to be easily transmissable from one human being to another. The discovery of new vitamins has determined the causative factor of some diseases and proper feeding along these lines has found a ready response in their curative powers. The ever-dreaded pernicious anemia has surrendered surrepticiously to a diet rich in liver extract and an ever-increasing interest in the endocrines, or ductless glands has led to the production of extracts, mono and poly, popularly promulgated as cure-alls but recognized professionally as of benefit specifically in certain limited conditions only. The study of allergy is foreign to most of us and yet, scientific cures are being wrought by a true interpretation of the causative factors in such

diseases as asthma and hay fever and the careful and considerate administration of the proper pollen extracts for their relief. Radium, with an ever widening sphere of usefulness, is becoming more popular as the profession becomes better acquainted with its adaptability both as a preventive and a curative measure. Rental laboratories make it available in most all sections of the country. However, I do not sanction its indiscriminate use by those untrained in its administration. The field of intravenous therapy is so vast that we shall give it but passing notice. The introduction of carefully prepared medicinal agents directly into the blood stream has brought about a revolution in therapeutic procedure and yet experience has taught us that only in special selected cases can we expect the realization of our fondest hopes as to its expediency. The study of basal metabolism has produced a standard index of diagnostic value in some of the more obscure disorders, and further advancement is anticipated with continued application of its valuable assistance in diagnosis. The use of the electro-cardiograph in the study of heart diseases is another step forward, rendering diagnosis more exact and revealing conditions of the heart muscle which it is difficult or impossible to get by other means.

In this short resume it has been impossible for the writer to mention the many accomplishments of the profession during the period we have attempted to cover in this paper. We have endeavored to strike the peaks of progress and lay special emphasis upon those of consequence, and so great has been the progress that we may have omitted to mention some very important discovery or accomplishment and thereby lay ourself open to criticism. No attempt has been made to touch upon the advances in surgery, for one far more able than I will bring this subject to your attention this evening. Medical education has been hard pressed to keep stride with advancement made in the field of practice, The metamorphosis has been so marked both in clinical and didactic teaching, that should a graduate of the late nineties again visit his alma mater, he would be astonished at the difference in methods. I do not hesitate to venture the assertion that we of that glorious and never-to-be-forgotten period, practice less than 20 per cent of the ideas and theories our hard-working faculties attempted to impress upon us during our student days. In keeping with the general trend of this paper, I have attempted to show how the sciences upon which medicine is based, the methods of their application, the conception of the physicians as a whole, and the attitude of the public as to the service demanded, have been kaliedoscopic in the variety of their changes and today, as the old order changeth, we stand upon the threshold of a new and wonderful era in medicine So inspiring are the improvements in the curriculum that I, like Wm. J. Mayo, feel that I would like to be a freshman again and be able to partake of the vast feast of learning of the present day. I sentimentally deplore the curtailment of the field of the general practitioner, but I am also broad minded enough to recognize the importance of the men in specialized lines. However, I cannot reconcile myself to the ever-ready-made-to-order specialist dumped from the college amphitheater upon an unsuspecting public, without the foundation of at least a few years' general practice to acquaint him with the fundamentals of true medicine—clinical diagnosis, without which no man is thoroughly trained to enter any specialty.

Quoting from a recent address of Dr. Lewellys F. Barker, "The general practitioner is still of great importance for public welfare, but his activities are and must be, supplemented by those of a large variety of medical and surgical specialists. A general diagnostic survey of a patient suffering from any obscure malady requires, today, the co-operation of several persons, a fact of which the consumer of medical services is, himself, becoming ever more aware, as is shown by the increasing tendency of patients to resort to diagnostic clinics." No wonder then (with such striking alterations in knowledge, in technique, in conceptions of the province of medicine and of the functions of practitioners, and in actual medical practice) that reforms in medical education become compulsory. Naturally the standards of requirements in medical schools have been raised—as well as pre-medical studies, and hospital interneships have to be made a part of the curriculum.

In closing I wish to pay my respects to those pioneers of medicine in Oklahoma who sit before me tonight, who have endured the hardships of early-day practice in a sparsely settled country. Without hospital facilities, laboratories or trained nurses, they blazed the trail that has made possible the accomplishment of much of

the progress we have spoken of in this address, and who, according to Stanley, "have always looked for the best in others and have given the best they had, whose lives were an inspiration and whose memory will be a benediction."

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RECENT ADVANCES IN SURGERY*

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Allow me to express my appreciation of the honor you have done me in extending through your president, an invitation to address you.

The subject which has been suggested to me, "Recent Advances in Surgery", is an attractive one in that it permits one to wander at will through unlimited fields of alluring interest. The science of medicine and surgery has shown far greater progress during the past third of a century than at any similar period in its history. To those of us who have been fortunate enough to have observed at first hand the developments and attainments of the last thirty years there has been unfolded a panorama of scientific accomplishment replete with absorbing interest and stimulation for the student and pregnant with vast possibilities in the recognition, alleviation and cure of human ailments. Until the beginning of the present century surgery consisted largely in the application of mechanical principles to the solution of pathological problems without the knowledge and safeguards which have since been evolved, while the acquisition of surgical knowledge followed chiefly along empirical lines. Today the advance is chiefly along biochemical and biophysical routes both as regards diagnosis and treatment, physiologic research affording the basis upon which such study is made.

The intensive tilling of the surgical field has resulted in the growth of many surgical specialties: intensive study by the various specialty groups concentrated upon organs and systems of organs has thrown a flood of scientific light upon many problems whose explanations had heretofore remained elusive. The recent world war presented many questions which pressed for solution, furnishing the impetus and material for study which eventually resulted in the elaboration of already established specialties and, as well, in the development of many new ones.

Neurologic surgery, thoracic surgery, orthopedic surgery and oroplastic surgery have been fostered and developed enormously within the last decade under the auspices furnished by the recent war. To attempt to enumerate the advance made by these particular groups would necessitate a rewriting of the surgery of the ailments covered in their domain. Tics and neuralgias are now readily and safely relieved and many patients with brain and spinal cord tumors, formerly considered hopeless, are now restored to useful activity and spared the distressing paralysis and blindness of prolonged invalidism. Abscesses and tumors of the lung, bronchiectasis, pulmonary tuberculosis, tumors and strictures of the esophagus, injuries and diseases of the heart, in some of their phases, are proving susceptible of help, at times even of cure, at the hands of intrepid surgeons whose achievements in this field offer a promise of what yet may be done. Orthopedic surgery has shown marvelous advance in reconstruction and rehabilitation procedures, particularly in overcoming the crippling disabilities of paralysis and the deformities of bone and joint disease and injury. One has but to familiarize himself with the work of the various state crippled children's committees to see the beneficent results of the application of well thought-out surgical principles in restoring to lives of usefulness the many who were formerly classed as helpless cripples. The oro-plastic surgeon, with his advanced knowledge of bone and skin grafting, combined with an uncanny ingenuity of making and using them, is able to so nearly restore faces to their normal contour that previously distorted and disheartened individuals are now given the opportunity of resuming unafraid and unabashed their places in community life.

In the field of general surgery the advances have been no less remarkable: with your indulgence further discussion will be limited to some of these which appear to have the greatest practical value for the general surgeon.

Radium in the treatment of uterine pathology has attained an established position, while it has not proved as widely efficacious as at first thought to be, its results in certain conditions have been demonstrated to surpass those of any other

*Delivered to the General Meeting, Oklahoma State Medical Association, Oklahoma City, May 28, 1929.

treatment heretofore employed. Its use in the treatment of cancer of the cervix has eliminated the blood loss, trauma and prolonged anesthesia which obtained in every radical operation for this lesion and at the same time greatly lessened the mortality and morbidity. The ultimate results as related to prolongation of life and apparent cure compare favorably or excel those of operation. All but the most advanced cases can be benefitted to some extent by its employment and though they finally succumb to the disease, they are frequently spared the suffering induced by the hemorrhage and infection from the foul, sloughing, vaginal mass. Since 1921 we have adopted radium as the treatment of choice in cancer of the cervix, and have been rewarded by having series of patients treated in this and succeeding years now well and free from evidence of recurrence. In cancer of the body of the uterus, radium holds second place to surgical removal, but there exist definite indications for its employment as the treatment of choice in patients whose physical condition prohibits the employment of a major surgical operation and in those in whom there is demonstrable evidence of extension of the disease beyond the uterus, in the latter instances being used as a palliative measure for the control of bleeding. We have patients in this group living and well from four to eight years after the initial treatment. In fibromyomata of the uterus radium finds, within certain limits, a rather wide range of usefulness, its limitations being determined by the age of the patient, by the size of the tumors and their situation, by pedunculation, by tumor degeneration and by adnexal disease. In the treatment of functional uterine bleeding, radium stands practically as a specific, finding in this field its most brilliant and consistent successes. Previous to its advent resort was had to repeated curettements and finally, in not a few instances, to hysterectomy, for relief of continued bleeding, a relief now readily compassed by radium in dosage suited to the age of the patient and the result desired, namely, reduction in flow or its complete cessation.

The marked improvement in the pre-operative study and preparation of patients and, as well, in the post-operative care of them has constituted a definite advance, in that operability is increased and mortality is decreased. Safety in surgery has become the keynote of modern surgical attack, built up on biophysics and biochemistry, an appreciation of the living pathology and a correct evaluation of the patient's resistance. Insulin in the hands of our medical confreres transforms the diabetic from a *noli me tangere* into a fair surgical risk, tolerating operative procedures well which before its introduction carried an inevitable mortality. The addition of iodine to the regime in which the factors of safety were sought in preparing hyperthyroid patients for operation has paralelled in brilliance of result the role of insulin in preparing diabetics for surgical measures. In most cases it has obviated the necessity for protracted periods of rest and serial operations; polar ligations and unilobar resections with consequent long morbidity are but seldom necessary, the entire operation being accomplished at one sitting with greater safety than was before possible. The mortality has been reduced to approximately one per cent and the ultimate results are such that there can be no longer any debate as to the relative advantages and dangers of operation as contrasted with other methods of treatment formerly in use.

The preparation of the prostatic, formulated upon his blood chemistry, renal and cardiovascular findings has greatly enhanced the safety of operation, transforming inoperable patients into operable patients, converting bad risks into good risks, largely by relieving the burden upon the kidney and enabling it to regain, in whole or in part, its efficiency. Adequate preparation of patients in whom resections are to be made in the course of the gastro-intestinal tract contributes much in the lowering of mortality. If there be obstruction high up in the intestine, rapid dehydration and loss of chlorides with an increase in blood urea rapidly lead to a fatal termination. The blood chemistry shows a high carbondioxide and low chloride content, the interpretation of which is alkalosis and not acidosis, requiring chlorides and saline, not alkalies. The work of Haden and Orr in showing the persistent vomiting of obstruction to be due to an alkalosis, readily determined by a study of the blood chemistry, has resulted in the first appreciable lowering of the high mortality attending this condition. If the obstruction be in the colon, preliminary enterostomy permits of proper preparation and at the same time avoids the danger of resecting and sutering edematous bowel. In patients who are dehydrat-

ed and devitalized, fluids, dextrose and blood transfusions are essential to a restoration of proper balance. The employment of the last two in maintaining nutrition and increasing vital resistance in preparing for surgical procedures and as a means of treatment in combatting toxemias and infections constitutes one of the most valuable advances of recent years. The physiology of the blood serum has shown it to contain a rather constant amount of dextrose which provides energy for the body and is its chief caloric source. When the vital processes are reduced to a point below par by shock, injury or disease, the administration of dextrose with saline or Ringer's solution intravenously furnishes the serum with the salts normally contained therein together with the dextrose. At times the concurrent administration of insulin furnishes an element which the pancreas, as a result of depression, may not elaborate in sufficient amount for the proper utilization of the dextrose. In post operative acidosis, water and dextrose alone usually suffice; if in the course of such administration, particularly if it be long continued, sugar appears in the urine, the exhibition of a small amount of insulin will make the remedy more efficient. When the stomach is intolerant of food, or when physiologic rest of the gastro-intestinal tract is desired for repair following operation, nutrition can be satisfactorily maintained for days by this method, much more so than by subcutaneous and rectal routes. In surgery of the biliary tract, pre-operative study and preparation are the keynotes to success. When one considers that the liver is the largest and one of the most important biochemical factories in the body, being interposed between the portal and systemic circulations, performing multiple functions, each of which is essential to bodily welfare, the importance of its dysfunction becomes readily apparent. While all of the functions of the liver are important, three are especially so to the surgeon, namely, storage of glycogen, synthesis of urea and secretion of bile. "Carbohydrates are used as glucose, stored as glycogen in the liver, the excess being deposited in the body as fat. Unfortunately fats can not to any considerable degree be reconverted into glucose; furthermore, sufficient glucose must be available to maintain combustion of fats. Any disease of the biliary tract which induces changes in the liver cells interfering with this ability to store and distribute glucose to the tissues results in a two-fold toxemia, the production of acetone and diacetic acid from the combustion of the higher fatty acids and the overproduction of protein waste in the effort to supply the lacking glucose. Proteins, can to a considerable extent be converted into glucose, but they contain nitrogen. Under the stress of hepatic disease, sufficient glucose not being available, the protein tissues of the body are broken down for the purpose of producing it and the resultant excess of nitrogen must be eliminated in the urine as urea and ammonia. The kidneys may be unable to excrete this excess of nitrogen which then accumulates in the blood, for the most part as urea, producing toxemia, of which uremia is a manifestation." The intravenous administration of dextrose to supply the glucose deficiency and of an abundance of water to act as a solvent and diuretic in the elimination of nitrogenous material from the blood are sheet anchors in the preparation of patients presenting biliary tract disease. Interference with the outflow of bile results in cholemia, a toxemia due to the absorption of bile pigments and bile acids into the blood, one of the results being a prolongation of the clotting time of the blood. Intravenous injections of calcium chloride and the employment of whole blood transfusions materially hasten the coagulation time of the blood and assist in the neutralization of toxic bile pigments. A satisfactory test for the estimation of hepatic function is still lacking; in hepatic dysfunction the blood chemistry reveals the hypoglycemia and the increased blood nitrogen, while the icterus index and Van den Bergh reactions indicate the degree and extent of the cholemia, the combined findings affording positive information upon which to base pre-operative and operative treatment.

The advances that have come in anesthesia lie chiefly in the recognition of the merits of each anesthetic and its application in its particular sphere of usefulness. The technique of regional bloc, local infiltration, sacral and spinal injections has been so improved that they are finding an ever widening field of usefulness. The increased danger of lipoidal solvent anesthetics in the surgery of the biliary tract over those not possessing such qualities, gives the preference to the latter, gas-oxygen, ethylene, spinal or local infiltration. Pulmonary disease, renal degenerations, cardiovascular changes, brain tumors are instances in which a discrim-

inating selection of anesthetic is necessary. Synergistic anesthesia connotes a definite gain, particularly in bad risk cases.

In addition to the correct evaluation of changes in the body chemistry made possible by a study of the blood, the diagnosis of intra-abdominal and intra-thoracic lesions as a result of improvements in radiological technique has reached an astonishing degree of scientific accuracy. With the opportunity for examination gastric carcinoma can be recognized early, affording an increasing number of patients the opportunity of cure which surgical resection alone offers. Gastric and duodenal ulcers can be detected with an accuracy approximating 95 per cent, a proportion not approached by any other means short of exploration. Obstructions and filling defects indicative of neoplasms in the colon are readily located long before a mass can be detected by palpation. Early recognition and appropriate preparatory treatment have both reduced the mortality from operation and increased the number of permanent cures following it. Graham and his asociates in 1924 introduced a test consisting in the administration, orally or intravenously, of the iodin and bromin salts of sodium and phthalein which eliminated by the liver in the bile, gives radiographic findings upon and by which gall bladder function can be determined. It is today regarded as the most valuable and dependable single laboratory method of diagnosing disease of the gall bladder. It is essentially a test of gall bladder function in that filling of the gall bladder permits of visualization of its size and shape depending upon its power of concentration, and diminution of its shadow coincident with emptying of the gall bladder as a result of contraction induced by the ingestion of food into the stomach. Variations from this normal indicate disease; when administered intravenously, or granting absorption of the dye when administered orally, failure of the gall bladder to visualize is indicative of cystic duct obstruction, constituting the most reliable sign, afforded by the test, of cholecystic disease. If visualized, faintness of shadow indicates failure of concentration due to disease; irregularities in shape and contour are suggestive of pericholecystic adhesions. Mottling of the gall bladder shadow is suggestive of stones, while persistence of shadow in bold relief after ingestion of cream represents delayed emptying dependent upon changes in gall bladder wall. The personal equation invariably enters into the interpretation of these various changes from the normal but with adequate experience it has proved reliable. In fact with the accumulated experience at hand it has been shown that positive interpretations have been, as a rule, borne out at operation with the greater percentage of error in interpreting a normal functioning response as indicating no cholecystic disease. Until further experience has revealed its exact limitations cholecystography must be regarded as preeminently a test of gall bladder function rather than a method to depict actual disease of the gall bladder. "Cholecystographic findings must be supported by a history of observations suggesting cholecystic disease before a patient is submitted to operation, and at the same time it must be borne in mind that a patient with a normal cholecystogram may have a history characteristic of gall bladder disease which is confirmed at operation."

A consideration of your patience forbids a review of the various changes, developments and improvements in the surgical treatment of lesions in the various organs and systems of organs, notably the increased indications for splenectomy based upon a study of the blood and the role of the spleen in its physiologic and pathologic aspects, the tendency toward cholecystectomy in preference to cholecystostomy, the management of pancreatic disease in association with biliary tract infections, and the noteworthy advance in operations for cancer of the colon and rectum. The surgical treatment of peptic ulcer affords a fruitful topic for discussion, the tendency in gastric ulcer being toward more radical resections, while that in the duodenal ulcers is toward conservatism, gastro-enterostomy, with or without the excision or destruction of the ulcer or one of the several pyloroplasties, being the operation of choice. It is to be noted that at present there is a definite school of thought in the profession, which, holding that where there is no acid there is no ulcer, have adopted subtotal gastrectomy as the operation of choice for all ulcers, gastric and duodenal. The secretion of gastric enzyme and hydrochloric acid is influenced by four factors: first by sight and smell, the impulse being carried through the vagus; second, by a hormone or secretogen activated by the presence of food in the antrum of the stomach; third, by a hormone or secretogen ac-

tivated by the presence of food in the upper intestine, and fourth, by a basal or continuous influence of unknown character. Resection of the stomach and of the left vagus nerve eliminates the two most important factors in the secretion of hydrochloric acid, resulting in anacidity. It is claimed by the adherents of this procedure that further ulcer formation will not occur after its employment. The abolition of hydrochloric acid from the gastric secretion is not in line with physiologic principles and conceivably may be a handicap to health even though no stomach symptoms may exist. The employment of such extensive resection for the cure of a small duodenal ulcer must at present be regarded as a development in the solution of the problem presented by peptic ulcer rather than an advance, since time and observation will be required to evaluate its worth.

Finally, one of the greatest contributions which surgery has made to medicine is in the field of pathology. The pathology of the dead, a most excellent foundation, has been supplanted by the pathology of the living. In the former, terminal lesions only can be studied, while in the latter they are observed in all stages from incipiency to the end. Gross and microscopic changes in organs which have been the subject of clinical study can be correlated with the signs and symptoms thereby elicited and observed. Opportunity is afforded for both physiological and pathological investigation and upon the knowledge so gained, to formulate scientific, rational diagnosis and treatment, and to predicate still further advance in the science of medicine.

WHAT ARE THE LIMITATIONS IN THE WORK OF THE OPHTHALMO-OTOLARYNGOLOGIST*

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At one of our interstate medical meetings one of our leading ophthalmologists from Texas, presented a most interesting case of brain tumor upon which he had previously operated, whereupon, one of our good men from Kansas stated that he would like very much to discuss the paper, but he did not believe the case report had any place in an eye, ear, nose and throat section of a medical association.

Not long ago I was called out into the State to operate upon a patient with brain abscess of otic origin. While in the town, one of the doctors, in all kindness, raised the question as to whether such work did not belong to the general surgeon.

Again, I took it upon myself to operate upon enlarged glands of the neck, the results of infected and diseased tonsils, and one of my colleagues, a general surgeon, with good intent, called me over the telephone and asked me if I did not think I was getting out of the field of my specialty.

These and other incidents have raised the question with me, and hence I present the matter for your consideration. What are the proper limitations in the work of the eye, ear, nose and throat specialist? In other words, where should the ophthalmo-otolaryngologist retire in favor of the general surgeon? The answer to this question I think resolves itself into the answer of another natural interrogation, namely, who is the best qualified to do this related surgery?

A little more than three decades ago the work of the eye, ear, nose and throat specialist was largely medical. Since that time, however, a great change has taken place, so that, whereas previously 90 per cent of this work was medical, now, probably 75 per cent is surgical. You will observe that among the prominent specialists along these lines in Great Britain, the qualified men possess the degree of F. R. C. S. rather than the F. R. C. P. The same is true of these specialists in America, where the duly qualified receive the F. A. C. S. rather than that of F. A. C. P. Admitting therefore, that our work allies us with the field of surgery more than it does with that of medicine, it is well known that the sphere of our operations are confined to the head and neck. This being the case, we have a right, to assume at least, that the otolaryngologist as a whole are more conversant with the anatomy and physiology of this portion of the human body than are the general surgeons who must cover the whole field of human anatomy.

Again, all the work of the eye, ear, nose and throat men has to do with the etiology, symptomatology, pathology, diagnosis and treatment, surgical or medical, of diseases of important organs and structures in the head and neck, whereas the general surgeon would needs be equal-

*Chairman's Address, Section on Eye, Ear, Nose and Throat, Annual Session, Oklahoma City, May 28, 1929.

ly proficient in the whole field of human surgery. I believe, therefore, that it must be admitted, without further discussion, that the ophtalmo-otolaryngologist must of necessity be better prepared to do the surgery of his specialty as well as all the related surgery of the head and neck.

Just as the field of medicine was found all too large for one man to make himself proficient in all its parts, and men began to specialize, so in recent years has the surgeon begun to greatly increase his skill and efficiency by narrowing his field of operations, so that today we have one surgeon of whom I know, who practically confines his entire work to the mastoid. The time has come when our greatest surgeons are asking to narrow the sphere of their operative work rather than to extend it. Greater skill, covering a less extended service means a wider reputation as a surgeon and hence larger financial returns, than less skill in a much broader sphere.

The hesitation, therefore, in our ranks, if there is any, regarding the possible danger of encroachment on the field belonging to the general surgeon is a mistake because there is a natural association between the affections of the eye, ear, nose and throat and their adnexa. We should not be satisfied with the mere treatment of these organs but should make ourselves the more competent to include also the adnexa and the complications.

Intranasal infections at first limited to the schneiderian membrane may involve the antrum of Highmore with an extension to the superior maxillary bone itself; it may involve the ethmoid and sphenoid cells or the frontal sinus, or by way of the cribriform plate or the communicating vessels, the meninges of the brain, or even the brain itself. The rhinologist of today should not be satisfied to treat this simple and primary infection of the mucous membrane of the nose, but he should be the best qualified to follow up the complications, operating upon the various accessory sinuses of the nose if need be, and extending his work if necessary even to the brain.

I believe there is a vast field of surgery that is being done indiscriminately and not very well, that the otolaryngologist should do and do skillfully. I have endeavored to give some considerable attention to this work, and it has proven very satisfactory and not wholly unprofitable.

Many varieties of external nasal deformities have been and many still are being performed by the general surgeons, notwithstanding the fact that in most cases intranasal surgery also is required, in order to obtain the best results.

As some writer whom I do not now recall, stated in a recent article, "The lips, gums, jaws, palate, salivary glands and ducts, cheeks and tongue are being treated in a miscellaneous manner, some by general surgeons, some by dentists, or what are known as oral surgeons, and some by the otolaryngologists."

"Such conditions as hare-lip, congenital staphyloma, neoplasms, inflammatory diseases and angioneurotic oedema. Of the gums and jaws we have epulis and other neoplasms, paradental and dentigerous cysts, periostitis, abscess and necrosis. Of the palate, cleft palate and other congenital defects, paralysis, neoplasms and inflammatory diseases. Of the salivary apparatus, salivary calculi and cysts or ranulae, abscess and neoplasms of the gland proper. Of the tongue, black tongue, and other keratoses, tubercular and syphilitic diseases, congenital shortening (or absence) of the frenum, otherwise known as tongue-tie."

Furthermore it has been shown in recent years that lymphatic structures of the mouth, nose, nasopharynx, pharynx and larynx drain into the various glandular regions of the neck, and their enlargement or infection is in direct proportion to the infection of these lymphoid structures within these cavities. Conversely, with the clearing up of the primary infection will the glandular disease disappear.

The removal of neoplasms and various operations of the external ear offer a field for our consideration, while the many complications of a mastoid infection, such as sinus thrombophlebites, brain abscess, abscess of the neck, secondary to Bezold's variety of mastoiditis and meningitis, all call for special training and surgical skill.

The general surgeon is often called upon to do the neuroplastic operations for facial paralysis notwithstanding the fact that the condition may be the result of some disease of the temporal bone, or an operation for the cure of such an existing pathology.

In this short sketch I have been able to mention only a few, mostly surgical, of the conditions which come to the attention

of the ear, nose and throat specialist, touching little if at all upon the ophthalmological phase of the subject.

This work naturally falls within the sphere of this specialty, therefore it not only becomes our duty to make ourselves the most proficient to do it, but the profession as well as the people as a whole, in the proper way, should be brought to recognize the source to which they should turn if they are to receive the best possible service.

In most instances the general surgeons, or at least those who wish to do the best work, already recognize the immensity of the task that is theirs, and will welcome those of us who will claim the right by virtue of superior training and ability, to render all medical and surgical treatment for the eye, ear, nose and throat, and their adnexa.

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"KEEP THE WELL BABY WELL"*

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McALESTER

In the annals of warfare the battle-cry, or slogan, is given a place of influence beyond an accurate reckoning. We need only to be reminded of, "On to Moscow," "Remember the Alamo," and "They shall not Pass," to feel that in every instance the slogan had its part in steeling the will of men to do or die. Likewise, in any civil cause in which the interest of those concerned is to be aroused, the potency of a well chosen verbal expression of motive is unquestioned. In Chicago, the Child Welfare Association has taken as its slogan, "Keep the Well Baby Well." I have chosen to use this, in a somewhat restricted application, as the theme of what I shall say to you this evening. The child in the period of its infancy, or first two years of its life, is the baby under consideration. In the prevention of sickness among babies, such agencies as the Public Health Nurse, Mothers' Clubs, The National Bureau of Maternity and Infancy, and the State Department of Health, are powerful in their influence. However, I shall not discuss their activities, or the physician's relation to them, but rather the part of the family doctor, or pediatrician, in keeping the well baby of his private practice well. 'Tis a task impossible of perfect accomplishment, but worthy of the mettle of the best of us. Phillips Brooks has said, "He who helps a child helps humanity with an immediateness which no other help given to human creature in any other stage of human life can possibly give again." To whom is there not the deepest urge to help in the infant, so plastic, so responsive to good care, yet so susceptible to a multitude of besetting ills?

"Sweet flow'ret pledge o' meikle love,
And ward o' mony a prayer,
What heart o' stone wad thou na move,
Sae helpless, sweet and fair."

Most of us who do pediatrics, do obstetrics also, and thus have the opportunity to advise the mother during pregnancy, and the puerperium with reference to the care of her baby. I think that the obstetrician who does not do pediatrics should suggest to the mother that she place her baby immediately under the care of a pediatrician. I advise her to bring the baby to my office once a month during the first year of life, and once every three months during the second year; explaining that, if considered from the economic standpoint only, this course is highly profitable. At these monthly visits the baby is weighed and examined, and the mother is advised as to the baby's diet, general hygiene and medication if indicated.

That the baby should be breast fed in every instance where possible, is an oft repeated statement that requires no argument. Its importance warrants its repetition. Dr. Oliver Wendell Holmes is quoted as having said that there is more wisdom as to nourishment of the baby in the two domes on the mother's breast than in all others. We would not be fanatical as to this, but remember that the baby must have milk sufficient in quantity and quality, and if he can't get it at the breast, he must have it partly or wholly from the bottle. When the baby is three months old, he should be given one bottle feeding each day even if the breast milk is adequate. At this age he will readily take the bottle, whereas a few months later it may be a very difficult matter to persuade him to take it. As a consequence of this refusal on his part, he may get in a condition of serious malnutrition when the mother's milk becomes insufficient in quantity or quality.

What shall we put in the bottle? A food that (1) contains the necessary calories,

*Oration in Pediatrics before the General Session of the Oklahoma State Medical Association, May 29, 1929.

(2) is properly balanced in proteins, fats and carbohydrates, (3) is sterile, (4) is assimilable and (5) contains the necessary vitamins. I am not here to advocate one milk formula above another, but to insist that some such requirements as those just stated be met in the food which is prescribed. We should direct the feeding of the child in a scientific way, adapting the food to the individual case. Such adaptation should be made, not in a haphazard, try-this-and-see-if-it-will-work sort of way but with an intelligent effort to interpret the baby's needs and prescribe accordingly. Sweetened condensed milk is not a properly balanced food and, too often have I seen the soft, fat baby who had been fed exclusively or largely on it, wilt under an acute infection like a hot-house plant before the noonday sun. Raw cow's milk is never sterile and should be boiled, or at least pasteurized. Cow's milk, invaluable as an infant food, is most easily contaminated and is the ideal culture medium for many strains of harmful bacteria. If all milk fed during the first two years of life were boiled and properly cared for subsequent to the boiling, summer complaint would probably be almost an extinct disease. 'Tis true that vitamin C, which prevents scurvy, is destroyed by heat, but this is readily supplied by orange and tomato juice. How infrequently have you seen scurvy and how frequently have you seen enteric infection. The objection oftenest heard to boiled milk, and that usually from the mother, is, "But boiled milk is so constipating." Invariably there recurs to me the expression of an eminent pediatrician, "Thank God for the constipated baby." Constipation rarely becomes serious and is overcome with comparatively simple measures.

Dr. Blachly, of the Department of Maternity and Infancy, has kindly furnished me with the reported deaths under two years of age in Oklahoma during the year 1927. The total is 4103, of whom 1264 were coded as dying from premature birth and injury at birth. Next in number to this group stands enteritis with a total of 894. I leave it to your imagination to estimate the number who were ill with enteritis but recovered. Correct feeding is doubtless the salient factor in our defense against enteric infection.

Cod liver oil is begun the first month of life, five or ten drops three times a day, gradually increasing to one teaspoonful three times a day by the third or fourth month. This is done because of the influence of vitamin A on growth, but for the more important reason that vitamin D is needed for the prevention of rickets, by long odds the most important nutritional disturbance of the first two years of life. When the weather permits sun baths, cod liver oil may be omitted on the days these are given.

A good deal is being said and written about irradiated foods and drugs as a substitute for cod liver oil in the prevention and treatment of rickets. In the present state of our knowledge, there are at least two valid objections to their use. First, they do not contain the growth producing vitamin A as does cod liver oil. Second, the standardization and dosage of these products is still in the experimental stage. Ergosterol is the most frequently mentioned and highly lauded of the irradiated drugs. There is no doubt that a minute amount of this given daily will prevent or cure rickets, but it is possible with it to produce hypercalcaemia in the rat; hence it is evident that this drug should be carefully standardized, and the dose be accurately determined before the general use of it for babies is advisable. As to the irradiated foods on the market, their vitamin content is perhaps too small to render them of much value as antirachitic agents. One pound of one of these, a cereal, has a vitamin A content, by the analysis which the manufacturers submit, equal to that of only two thirds of a teaspoonful of cod liver oil.

What is rickets and what are its consequences if permitted to go on its way unmolested? We know at least this, that in rickets there is a deficiency of blood calcium and phosphorus. The patient with rickets has less than the normal amount of calcium and phosphorus in his tissues and an increased amount in the stool and other excretions. As he recovers, these findings are reversed. The results, or late manifestations of this disease, such as bow-legs, knock-knees, depressed sternum and other bony deformities, are unmistakable. The orthodontal appliances, which are now seen wherever there is a group of older children, are among its monuments. A well developed case of rickets displays a galaxy of characteristic markings, as delayed and irregular dentition, late closing of the fontanelle, craniotabes, Harrison's groove, the rosary, protruding abdomen, box-shaped head and enlarged spleen. Before these become noticeable, a

bare spot on the back of the head due to restlessness, wakefulness and free perspiration are early rachitic warnings. But the meat of this thing is that the rachitic baby is readily susceptible to infections, the non-rachitic baby is highly resistant. This is particularly true of infections of the respiratory tract. The non-rachitic have little trouble from rhinitis, tonsillitis, and bronchitis and almost never have pneumonia of any type. In Oklahoma in the year 1927, we find pneumonia, with a total of 504 deaths, fourth as a cause of infant mortality. This alone is an eloquent sermon on the text, "Give the baby cod-liver oil, or a sun-bath every day."

Though I am not going into the infant's diet in detail, permit me, in passing, to emphasize the importance of giving vegetables as a preventive of anaemia. These should be begun about the fifth or sixth month.

May we now turn to a consideration of the prevention of transmissible diseases.

Since there is no age at which a child is immune to smallpox, he should be vaccinated, probably about the sixth month. Vaccination needs not to be emphasized to convince us of its value, but merely as a reminder of a thing of proven worth which we are so prone to neglect.

Active immunization against diphtheria by means of toxin-antitoxin has received widespread acceptance by the public and general endorsement of the medical profession. There is ample evidence of its efficacy. For instance, in Auburn, New York, a city of 35,000, where 85 per cent of the school children have been immunized, it is reported that in three years, the number of cases has been reduced from eighty-five to five a year, and deaths from fifteen to one a year, and that one a questionable case of diphtheria. Before the babe is a year old, he should have three injections of toxin-antitoxin. It is not necessary to use the Schick test before giving these immunizing doses, but it should be made 60 or 90 days later. If positive, one or two more injections should be given, for we have learned that three injections do not immunize every case. One word about the season of the year at which these injections should be given. We know that most cases of diphtheria occur in the fall and winter. It is easy to get parents interested in the prevention of a disease when it is prevalent in the community and equally as hard to interest them when they are not hearing much about it. In spite of this helpful psychic factor, I have consistently refused to give preventive inoculations in the late fall and winter. This is, of course, because for 60 or 90 days after toxin-antitoxin is given, the child's resistance to diphtheria is not improved and probably lessened. It is only fair to the child to give the injections in the spring or summer, besides, should a child who has had toxin-antitoxin develop diphtheria shortly afterwards, the method of prevention comes into disrepute.

If the means of prevention of the other contagious diseases were as effective as are those for the prophylaxis of smallpox and diphtheria, we should be equally as positive in recommending such inoculations against them as are available, but unfortunately they are not.

As to whooping cough, I should give pertussis vaccine to the baby only in case of definite exposure. It is not 100 per cent effective and such immunity as it confers is of unknown duration.

The method of immunization against scarlet fever by the Dick method has been employed for only a relatively short time, hence it is impossible at present to make other than tentative statements, which may require more or less modification in the light of further experience. The most suitable dosage, the duration of the immunity, and whether or not an induced active immunity to scarlet fever is produced are matters for the future to determine.

If, in this brief presentation of this subject, I have made both you and me a little more interested in keeping the baby well, I have accomplished my purpose.

To quote from Dr. Gerstley, "This method of practice certainly is a method of the future. It provides a satisfactory income for the physician, but this income comes not from the occasional unfortunate child and unfortunate parents, but from every single patient in one's practice. But better than affecting the income, it fulfils the ideals of the physician and it makes the parents happy. Seeing your little patients develop into healthy, happy children changes medical practice from drudgery and strain to a real pleasure. This new viewpoint elevates the practice of medicine to the position where it really belongs. It makes professional ideals compatible with professional welfare."

ACUTE GASTRIC DILITATION*

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Students of surgery have, in the past, manifested a tendency to emphasize surgical technique to the detriment of surgical diagnosis, pre-operative or post-operative treatment. That this is not a true conception or evaluation needs no argument, only emphasis. There can be no doubt that with the great advances in surgery as a science and art there must be necessarily advances in post-operative observation and treatment. (1) Reder has aptly termed the first five days following laparotomy as the period of surgical crisis, and the importance of close observation over such a critical period cannot be overestimated. Many of our patients who have been unable to withstand the additional burden placed upon them by surgical treatment might have survived had post-operative treatment been the product of timely reflection and prompt, fearless management, rather than the quotient of one hour divided by the number of our patients in residence in the hospital. What an illuminating boast it is when a surgeon makes the statement that he never sees his patients following operation! With the hope that this presentation may impress on us the importance of post-operative care, we now proceed to a consideration of one of the most commonly overlooked, incorrectly diagnosed and lethal post-operative complications, namely, acute dilitation of the stomach.

In 1872, at about the same period when Lister's antiseptic technique was first provoking discussion, Hilton Fagge described clearly the condition of acute gastric dilitation in his papers in Guy's Hospital report. Since that time close observers have recognized the signs and symptoms in increasing numbers. However, the number of cases which has been proven by post-mortem examination has been comparatively small. The reason for this will be made apparent later.

Although the majority of cases of acute dilitation occur following laparotomy, the condition is not only found within such narrow confines. It has been stated that any toxic condition may predispose to its appearance. It has been found in the newborn and in patients 86 years of age. It is somewhat more prevalent in females than in males. Exhaustive states, such as typhoid fever and pneumonia may end fatally as a result of this condition. It therefore behooves the internist to closely observe the abdominal viscus and not be content with a close observation of the heart alone. Dilitation of the stomach, while not as rapidly fatal, will never-the-less result similarly to that of dilitation of the heart, if unrecognizzed and untreated. Several cases have been reported following artificial and spontaneous pneumothorax. The application of a plaster jacket for Potts' disease, or deformity, injuries in any part of the body, more especially the spinal column and cord, extensive burns and chloroform narcosis all may operate as predisposing factors. Linke, in 1914, reviewed 173 cases, 68 of which occured without operation or narcosis. It is quite certain, however, that any operative procedure which rapidly reduces the cubic dimensions of the abdominal cavity, such as Caesarian section and oophorectomy for cyst, without providing for additional support of the cavity, will not uncommonly result in dilitation of the stomach. Gall bladder operations and even gastro-jejunostomy, may be the forerunner of this complication. My personal observation has resulted in the discovery of four cases: one, following caesarian section, one after cholecystotomy, one after gastro-jejunostomy and one following hysterectomy.

As regards the physiologic cause of gastric dilitation, a review of the literature results in the statement that it is concerned wholly wih the nerve supply of the stomach. (2) There is either a paralysis of the vagi or excessive stimulation of the sympathetics, with the preponderance of opinion being in favor of the former. Rough or excessive handling of the viscera, prolonged mesenteric tension and long anaesthesia are all factors in favoring the appearance of the condition. One who has once suffered from gastric dilitation is doubly prone to manifest it a second or third time.

Post-mortem examination discloses an enormously dilated stomach, at times filling the entire upper and left side of the abdomen, as far as the brim of the pelvis. The walls of the stomach are extremely thin and the mucosa is hemorrhagic. Some reports show gangrenous areas in the mucosa and submucosa. The viscus is filled with great quantities of gas and a fluid

*Chairman's Address, read before the Surgical Section of the State Medical Association, at Oklahoma City, May 29, 1929.

of thin consistency, greenish-gray or brown in color, which seldom has an offensive odor. Due to the size of the stomach, the loops of small intestines are literally jammed into the true and false pelvis, resulting in a great drag on the mesentery.

The ease with which this condition is recognized forms one of its outstanding characteristics. In or near the middle of the critical period, the patient first shows signs of gastric dilitation. Pain is complained of in the epigastrium and left hypochondrium, there is some hiccough and belching and an increase in temperature. At this stage the close observer will detect a distension in the left hypochondrium and succusion splash. There now appears an extremely important phenomenon, initiated at times by projectile vomiting and continued by regurgitations of mouth-full of material having the physical appearance of root-beer. Vomiting or regurgitation continues in spite of withholding everything by mouth. This is explained by the presence of secretion bodies from the duodenum passing into the stomach and stimulating the gastric glands to excessive activity. Not infrequently small amounts of bile show in the vomitus. Such findings are not suggestive of a serious condition, but are certainly a storm signal to the observing. Should treatment not be instituted, there is rapid dehydration, scanty urine, restlessness, rapid pulse, whose rate and volume may prove an excellent index to the severity of the condition, and all signs of impending disaster. These latter symptoms are due to the enormously distended viscus pushing the small bowel into the pelvis and thereby causing sufficient mesenteric pull to obstruct the movable portion of the duodenum as the superior mesenteric artery passes over it. The duodenum is actually pinched between the artery and the vertebral bodies. In other terms, death from acute gastric dilitation is really death due to high intestinal obstruction. Herein lies the reason for the greatest confusion in diagnosis, since without preliminary observation, the patient is naturally diagnosed as intestinal obstruction, if seen late.

Treatment is extremely simple—the stomach tube of Kussmaul, and posture. The mere passing of the tube is productive of considerable relief, although it is necessary at times to lavage the stomach in order to completely collapse it. If signs of duodenal obstruction are present, the postural treatment of knee—chest position (if practical), ventral decubitus, right lateral with pelvis elevated, will relieve the pathology remarkably promptly. (3) Doolin reports of 114 cases where postural treatment was not carried out, 75 in number, or 65 per cent died; whereas, in the 30 per cent where it was instituted only seven per cent died. Surgical treatment has been done by those few surgeons who do not recognize, or do not see the train of symptoms developing from hour to hour before their eyes, or those who do not have sufficient time for observation or interpretation of the sequence of symptoms. Some patients have been subjected to repeated laparotomies—one had the stomach trocarized and a few days later a gastro-jejunostomy! How impractical such a procedure is can readily be seen when we remember it is the movable portion of the duodenum and that only which is obstructed.

The purpose and aim of this treatise would be lost if it merely emphasized these few points in diagnosis, etiology and treatment. Rather, it is a plea for more observant evaluating post-operative care. Do not assume that when the last bleeding point has been controlled, the last suture tied that your responsibility and cares are at an end; rather that is the time when the blustering mechanic retires noisily to the background and the keen, watchful surgeon accepts the responsibility and takes the center of the stage, in command.

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SOCIAL ASPECTS OF TUBERCULOSIS*

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I have chosen this subject for this occasion, because it has a universal appeal and carries a heavy obligation, not only for the physician, but for the layman as well. If, in the short space of twenty minutes I can lay upon your minds and hearts the truth it embodies, I will have rendered a service which may in the course of events aid in preserving the charmed circle which hallows your own hearthstone.

*Oration on Tuberculosis delivered at the Thirty-seventh Annual Session, Oklahoma City, May 29 1929.

Any address on tuberculosis must be an omnibus affair, carrying more than it can gracefully handle. Therefore, I ask your undivided attention, with the hope that you may read between the lines. By the word "social" we mean those factors which influence human beings, individually or collectively, for good or for bad. In the course of every case of tuberculosis, whether concealed or manifest, certain events transpire in regular sequence, culminating in an ultimate fate with the inevitability of a character in Greek tragedy. Tuberculosis once present in the human organism may become latent and remain so throughout a lifetime, or it may become immediately active, taking on the hopeless aspect of one of the acute forms of the disease, or it may continue latent until some physical or mental strain interrupts its latency and initiates an active, progressive disease, usually chronic in character with a downward course of three to five years, if untreated, or if therapeutic measures prove unsuccessful.

If the disease becomes more or less advanced with tubercle baccilli in the sputum, it is virtually impossible for the patient to live in contact with other people without danger of infection. The existing danger is in proportion to the amount of sputum, the number of the tubercle baccilli found in the sputum, the intelligence and training of the patient, the age of those in contact and the environmental conditions under which they live. When contact with open tuberculosis exists, even under the most favorable conditions, the danger is grave, especially if young children are exposed. When the conditions are unfavorable, disaster is inevitable. Speaking to my confreres in the practice of medicine, the obligation hangs heavy over our heads. The symptoms, or the articulate expression of nature in her mother tongue, are crying in our ears. The physical signs are thrust upon our senses. The tubercle bacilli are awaiting the stain. Nature has painted the picture, the image should appear on our diagnostic retina. When this image appears to us, our responsibility begins and sympathetic and intelligent action must follow. Through such action disease may be arrested, life saved, massive infection prevented, earning capacity restored and domestic equilibrium preserved.

Since a large per cent of all individuals suffering from advanced pulmonary tuberculosis can be benefitted by some form of collapse treatment, it is reasonable to say that every case should be thoroughly studied, preferably in an institution for the treatment of tuberculosis, with a view of determining whether or not this method of treatment offers any hope of relief. This would provide the best chance for those who are suitable for collapse therapy and it would give those who are not suitable at least a short period of education in the methods of prevention and treatment, and through this educational influence they might be induced to stay on for indefinite periods of time. This isolation, while it lasts, would materially reduce the danger of both household and outdoor infection, and the education given would minimize the further danger after the patient's return home. If we add this estimated reduction in the danger of infection to that which we naturally would expect from the proper treatment of the large number suitable for collapse therapy, the sum-total should be sufficient to materially influence the incidence of serious infection and establish a new figure in statistical columns. In thinking of this sum-total, I urge you to consider the fact that people with advanced pulmonary tuberculosis usually expectorate ounces of sputum daily and are the most prolific bearers of the tubercle bacilli. If we assume that there are 100,000 advanced cases in the United States, with an average of two ounces of sputum daily, and if we reduce this to plain figures, we would have 200,000 ounces or 12,500 pounds of sputum daily.

In addition to the actual reduction in the danger of massive infection such a plan for education and treatment would bring about a more hopeful attitude which would replace the fatalistic viewpoint based upon the results of treatment as formerly employed and upon the pessimistic teaching so widely accepted until a few decades ago.

There is a great difference for all concerned, between fighting with the belief that death is sure and certain, and fighting with reasonable hope of restoration of health and continuation of life.

From the standpoint of the relation of disease to family economics, tuberculosis easily stands at the head of the list. In many a family of limited means, advanced chronic pulmonary tuberculosis has lifted an impenetrable wall between life and those things which sustain life. Having thus arranged the stage for tragedy, chronic tuberculosis may stand aside to view the drama. On this stage little babes in the arms of tired mothers may pass

from the somnolence of meningeal irritation to eternal sleep with no sign to mark the moment of transition; rosy cheeked, playful children may grow pale and lose the graceful lines of youth through distortion of ominous lumps in the neck, angular crooks in the back, or the telltale limp of a tuberculous hip. With broken spirit and bent bodies, after fruitless attempts to scale the wall, abdolescents and young adults take on the hectic flush and pass from the stage of life with a strange flare of courage, perhaps in anticipation of reward for a hard-fought battle.

To substantiate the fact that this is no idle flight of imagination, I now present the following slides, which have been chosen, not because they are exceptional but because they are representative of a great number of cases which might be presented if time would permit.

TREATMENT OF FRACTURES*

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TULSA

Without exception, the treatment of fractures is one of the most important subjects in surgery today. This, especially in view of the fact that the incidence of fractures is higher than ever before and that a greater variety and worse types are encountered now than formerly because of our modern industrial and mechanical age. This condition has been a great stimulus to the surgery of fractures. It has been my observation that a great number of the medical profession now consider the present day treatment of fractures as almost ideal. This is undoubtedly due to over-confidence and false security obtained from the universal availability of mechanical appliances, convenience of the numerous hospitals and the use of the Roentgen ray.

Early failure or disappointment in the closed treatment too often leads to a hasty and possibly disastrous open procedure. My purpose, as will be shown later, is not to deprecate the value of open procedures in fractures, especially complicated ones, but to call attention to the fact that the average physician and the average surgeon has not kept apace with progress in fracture treatment, and often knows less than the olden time practitioner about applied anatomy, bone physiology and the requirements for function.

*Oration delivered at Thirty-seventh Annual Session, Oklahoma State Medical Association, Oklahoma City, May, 1929.

In my opinion, modern conveniences have obviated the keen study that was formerly required of the condition. In fairness, though, I must mention that there are a large number of men who are everlastingly searching for improved methods concerning the treatment of fractures. This is evidenced by a glance at the literature, which never before has contained so many references of this sort. Fractures rarely kill—they only deform, cripple or incapacitate; in contrast to diseases of the respiratory, gastro-intestinal, genito-urinary or pelvic organs, and hence the comparative lack of interest in this most important subject.

On the part of the laity, X-rays have created a new standard by which results must be judged and have necessitated the physician striving for complete restoration of injured structures. The Roentgen ray is admitted into court as evidence in malpractice suits, be they genuine or blackmail. There is recognized a legal liability for failure to properly use the X-ray as an aid to diagnosis and treatment. It, unmistakably, calls for the open reduction of certain fractures.

Experience under the various industrial accident laws has given additional information concerning the disabling effects of injury and the end results of various methods of treatment, resulting in a higher standard of function being demanded by the patients, employers and insurance carriers. In many instances, unnecessary wastage of human material has been disclosed. While it is not true in every case, usually anatomical and functional results are closely related, but between the two we must judge our results by function. To repeat: we must strive more energetically in all our fracture work for anatomic perfection; it gives better function; disability is decreased; healing is quicker and the physician is safe from a medico-legal standpoint. The attempt to secure perfect reduction necessitates, in a great many instances, open operative procedures. In a general way the indications for operation are, that by the open procedure, function can be more nearly returned to normal in less time. More specific indications are to (1) sterilize, debride and repair damage in compound fractures; (2) joint fractures; (3) oblique or spiral fractures when not possible to otherwise keep extended; (4) when accompanied by nerve lesions or vascular lesions with unusual hematoma; (5) when early mobilization of nearby joint is desired.

A surgeon operating on fractures should have certain qualifications in order to be reasonably certain of a successful result. Briefly, I might mention that he should have definite knowledge of the patient's physical, mental and economic condition, and detailed knowledge of the exact local bone condition which he seeks to correct. It behooves the doctor to have tried all the usual methods of closed reduction and fixation, unless the injury be one of the class to be mentioned later, that demands immediate operative interference. Unfortunately, the doctor must face the possibility of introducing infection and sooner or later learns that open operations seldom accelerate callus formation but usually delay it. Also, he should have perfect mechanical equipment, including wide variety of bone instruments, fracture table for plaster applications or adequate mechanical devices for immoblization, as well as X-ray. These positively should be complete as with any other type of treatment. Too often entirely, I have seen patients with non-union or malunion following operation, and in several of these instances the bones undoubtedly would have united under the usual conservative methods. Also, the surgeon should possess a fundamental knowledge of bone tissue, its reaction to mechanical stimuli and conditions which influence repair; also, he should be thoroughly experienced in the successful treatment of fracture by the non-operative method as well as have a wide range of knowledge in aseptic and, preferably, instrumental technic. In our own technic, we never touch bones, gauze, suture materials, etc., with our hands.

By this necessarily brief general discussion of open operations on fractures, I merely wish to emphasize the importance of correct preliminary study of all fractures and the selection of a rational plan of treatment which, once chosen, should be followed as nearly as possible. .The physician should be particularly careful in making a complete diagnosis of the lesion, especially noticing whether there are motor or sensory changes in the limb. It is entirely too often that pressure paralysis occurs after treatment is instituted for the doctor to be blamed for that damage which occurs at time of injury. Incidentally, I might mention that in our practice, we never depend on the fluoroscope, even during reduction. The difficulties, delays and dangers surrounding the use of same, usually offset the advantages. We reduce the fracture in the best possible manner by manipulation; apply fixation and then take X-ray plates. Also, the fluoroscope is entirely unreliable for diagnosis of osseous lesions, and recently we have seen two cases in which joint fractures were missed.

In a brief way I will discuss a few selected fractures and following these will show some slides on hip fractures and treatment. I have found that these few particular types consistently have a lower percentage of good results and cause the doctors more grief and trouble than other kinds. Aside from ordinary malunited fractures of the long bones, they are the basis for the majority of malpractice suits.

Fractures at the base of the radius, such as "Colles", "Ford" fracture, etc., are complicated by the impaction with consequent shortening and rotation of the distal fragment as well as the characteristic silver fork deformity. A correct diagnosis is best made from comparative X-rays of both wrists taken in the A.P. and lateral. In this way, the actual amount of shortening is easily measured by comparing the two sides. Personally, I think it is a grave mistake to leave any degree of impaction--no matter how small. Another rule that we strictly observe is to always insist on the patient taking an anaesthetic, no matter how light the manipulation will probably be. This allows us time and opportunity for exact diagnosis and perfect reduction. Very often an associated forward displacement of one of the carpal bones is present, and if un-recognized and not removed early, will result in severe and persistent pain and stiffness in wrist and fingers. For those extreme cases of radial impaction and shortening, in recent or just moderately old fractures, we have been sucessfully employing a free graft of cortical bone, removed from the shaft of the radius and placed between the loosened ends of the impacted or shattered fragments. This can be used in one or two thicknesses, according to the amount of correction necessary.

During the last twelve months, we have operated on fifteen patients for fracture of the head or neck of the radius. On each occasion, complete excision of the head was done and in no instance has there been any noticeable symptoms of weakness or instability in the elbow or forearm. This, I ascribe to the fact that weight and stress at the wrist is effectively transferred to the ulna through the medium of the inter-

osseous membrane. Since practically all of these cases, when untreated, develop chronic pain in elbow, markedly limited rotation of forearm as well as partial fixation of the elbow, we do not temporize with them. A good point to remember is that no matter how small the fracture, the elbow joint fills with blood, and callus formation on the radius interferes with its circular movement in the dense annular ligament. Active and passive movement can be begun as early as 4 to 7 days after operation.

Fractures of the anatomical neck or head of the humerus have always offered a distinct problem in after-treatment. Unless there is an associated subluxation or undue rotation of the head, there is usually no difficulty in apposing the fragments under anaesthetic. The great majority of these cases are treated by some type of bandage holding arm to side of body or at the best, only elevating it slightly on an aeroplane splint. As a result, a very rapid adduction contracture occurs, the deltoid, trapezius and other shoulder mucles rapidly lose strength and the patient almost powerless to elevate the arm when the fixation is removed. The handicap of contracture, weakness and weight of the arm are enough that disability is permanent. This is true, particularly of older people; is also true for them in severe sprains, contusions, crushes, etc., which initiate traumatic arthritis and neuritis with the same painful disability. The prevention consists in elevation to a right angle on abduction splint of all fractures of the anatomical neck, head, sprains, contusions, etc., followed by early heat, massage and movement.

Although it has been necessary to do open work on compound, mal-united fractures of the shaft of the femur and of leg fractures, yet in no instance has the shortening, etc., been enough to demand open work on a fresh fracture. Neither has any type of splint been used for uncomplicated fractures of the shaft of the femur, or of the leg, but immediate reduction and application of double hip spicas with moderate flexion at the hip and knee were routine. This allows immediate moving and turning of the patient and if general condition is O.K., they can go home within a week or two.

In applying plaster for a leg fracture, four things should be noted in addition to amount of flexion desired at knee; namely: end to end apposition of bones; there should be no angulation of bones; the big toe should be in line with patella, and the foot should be at a right angle with leg to prevent shortening of the tendon achilles.

This brief paper was written solely for the purpose of emphasizing a few very important types of fractures and to stress the need of more careful diagnosis and treatment of this most common condition. *—From Hospital for Bone and Joint Diseases, Eighth and Elgin, Tulsa.*

ETIOLOGY AND PREVENTION OF GOITRE*

R. M. HOWARD, M.D.
OKLAHOMA CITY

The correct treatment of a diseased condition once it has developed is of the utmost importance; nothing should be left undone that will restore the victim to health. Unfortunately most diseases though alleviated produce damage to the vital organs and life's expectancy is shortened. How much better it would be if we could prevent disease, prevent the permanent pathological changes that must accompany and follow it, as well as save the patient and community the economic loss that must occur.

Through the present knowledge of etiology and prevention in disease great strides are being made, but much more must be done by the application of things we know in a practical way. They must be made to reach the people by the men who come most intimately in contact with them. Are we as physicians and health officers doing our best with some of these problems or are we through indifference and perhaps negligence or lack of what we should know failing to do the best we can?

When we think of preventable disease our minds turn to such as malaria, typhoid fever, yellow fever, and tetanus; conditions that are likely to produce profound impressions because of their immediate mortality.

How prone are we to forget the chronic conditions that may affect not only the individual, but future generations. Typical of this class of cases are the diseases of the thyroid gland. Goitre in its various manifestations is much more prevalent than generally believed. While its home is said to be in the Alps and the Himalaya Mountains of Europe and Asia, it is reaching

*Oration delivered at Thirty-seventh Annual Session, Oklahoma State Medical Association, Oklahoma City, May, 1929.

alarming proportions in the United States, and locally as our country is growing older our water supply changing, and our food supply becoming refined, goitre is rapidly becoming more prevalent. Disabuse your mind of the idea that we are not in the goitre belt. A little time and failure to use preventive measures will settle the question. In the limited time given me I can only take up three points in the goitre problem, and consider them very briefly.

1. Why does goitre develop?
2. How does it develop?
3. What are some of the results?

Of the many theories as to the cause of goitre, the one most widely accepted and the one that through experimental work on animals has the most to support it, is, that of iodine deficiency. During certain periods of life the demand on the thyroid gland is very great. This particularly occurs during the developmental period. The work of Marine and Kendall, and many others, among the school children of the United States shows clearly that iodine deficiency at this period of life, and the changes in the thyroid incident thereto are probably responsible for goitre in later life.

Why should iodine deficiency at this time cause goitre? (1) Because iodine in certain quantities is necessary to enable the thyroid gland to produce thyroxin, its essential element. (2) Thyroxin intimately controls the tissue growth, the development of the long bones, the sexual organs and the body metabolism. (3) When the extra demand comes for thyroxin, and sufficient iodine is not present to enable the gland to produce it, the thyroid gland as a whole undergoes changes in its effort to meet the demand. This situation is necessary for the factors to be present to initiate the trouble.

Iodine must be present in sufficient quantities in the food and drinking water, or, must be furnished to the individual to make up for the deficiency during the period of extra demand if the thyroid gland is to remain normal.

Goitre develops when the iodine content of the thyroid gland drops below (.1%) one tenth of one percent per gram of dried weight of the gland.

How does this develop? When the percentage drops below normal active hypertrophy and hyperplasia is initiated in the cells of the gland, the blood supply is increased, and there is a decrease of stainable colloid. The epithelium changes from low cuboidal cells to cuboidal, to collumnar. This series of changes is proved to be consistent in all thyroids from fish to man. When the epithelial proliferation has reached its maximum, the colloid has decreased to a small amount of granular albuminant material, and the iodine content has fallen to an inestimable trace. This represents the progressive stage.

Involutional or restitutional changes may begin at any stage of active hypertrophy or hyperplasia. These changes occur spontaneously or may be induced by iodine. The end stage in either event is colloid goitre.

Colloid goitre is the nearest condition to normal physiologically, chemically, or anatomically that a thyroid that has once been hyperplastic can again assume. Involution can be arrested at any stage and hyperplasia begin again, all stages of involution from the marked hyperplasia back to the colloid gland exist, just as all stages of hyperplasia exist and the morphological appearance of a given gland merely represents the stage of this cycle at the time of examination. The anatomical changes are the reverse of those seen during hypertrophy and hyperplasia. The gland becomes firmer, the blood supply becomes diminished, the colloid becomes dense and viscid. Paralleling the accumulation of colloid is a rise in iodine store, the cells return from collumnar to cuboidal to flat cuboidal if involution is complete.

While involution or recovery is the usual mode of termination of compensatory hyperplasia it occasionally happens that the maximum degree of hyperplasia reached fails to bring about functional compensation, and sooner or later a stage of thyroid exhaustion supervenes as is seen in goiterous cretins, myxedema and in the last stages of exophthalmic goitre going over to myxedema.

Coincident with these changes and for the same reason, i.e., compensatory efforts of the gland, nodules form which are the beginning of the so-called adenomas. These begin during the late stage of compensatory hyperplasia because of different rates of growth of the cells dependent on the blood supply. These adenomas being differentiated thyroid tissue are subject to the same changes that we have described as being characteristic of the simple type

of goitre, with this exception, that after reaching a certain age they tend to take on hypertrophy and hyperplasia which do not undergo involution, resulting in a state of hyperthyroidism. Until recently we have followed Plumber and Goetz in their belief that this is a true hyperthyroidism different from the dysthyroidism of exophthalmic goitre. Marine and Graham have put forth considerable evidence that the two differ only in degree, and are essentially the same process. We are inclined to believe that their difference depends only upon the acuteness of the process. One being chronic hyperthyroidism while the other is acute hyperthyroidism.

David Marine must be given credit for stating clearly our present ideas as to the development of endemic goitre. (1) That all thyroid enlargements begin as active work hypertrophy and hyperplasia. (2) Involutional or restitutional changes occur in most cases spontaneously, or are caused by the administration of iodine, colloid goitre resulting. (3) Exhaustion atrophy occurs in a few cases, the follicles disappearing, the gland becoming sclerotic, myxedema or cretinism developing. (4) That nodular or adenomatous goitre occurs during the late stages of compensatory hypertrophy because of different rates of growth, and that these nodules tend to repeat the same morphological cycle as non-adenomatous tissue. (5) That thyroid hyperplasia, (goitre) is a compensatory process dependent upon a relative, or absolute deficiency of iodine.

This being true, and it is founded upon exhaustive experimental work, and the best that we know today is true, the prevention of large numbers of cases of goitre depends on a very simple thing, the administration of iodine where it is deficient. Most goitres which appear during later life make their appearance during the adolescent period. They occur in individuals who at that time of life have an iodine deficiency.

There is another period in life which is of almost equal importance. I refer to the compensatory hypertrophy and hyperplasia which develop in the pregnant mother. Iodine, or thyroid extract in those with goitre, given to those individuals is of extreme importance. Goitre in the offspring may not only be averted, but the terrible tragedy of cretinism, deaf mutism idiocy may be prevented.

Small quantities of iodine, much smaller than is usually believed is all that is necessary to prevent the development of these changes in the thyroid gland, many of which are only amenable to surgery, some of which we are helpless to relieve.

It is not necessary to look very far to prove that maternal influence is important in the prevention of goitre. The children may be neglected but not the valuable live stock. In the northwest portion of the United States large numbers of animals suffer with so-called "Bigneck", and almost 70% die. The owners have found that if the mother is given iodine while she is carrying the off-spring no such thing occurs. Kalkus, working in the state of Washington where congenital goitre is prevalent among animals was able to produce goiterous or normal kids from the same ewes by giving, or, withholding iodine during pregnancy. Hart and Steinbach's experiments were equally conclusive when carried out in pigs.

Simon Levin, in Michigan, in an unselected group found 1146 goitres in 1783 persons. He investigated the histories of these cases for the localization of the disease in families, and found that in 22.2% of the patients the fathers had goitre, in 85.4% the mothers were afflicted and in 67.6% of the cases the children shared the disease.

The results of preventive treatment of goitre is showing remarkable results where it is being carried out among school children. A marked decrease in the incidence of the disease is being noted. This is being reported from many workers in the United States and abroad. Prof. Wagner-Jouregg recently reported a decrease in selected cases in Vienna of 61%. In Berne, of 80%. D. G. Mieggio reported an equally marked decrease in Italy.

What are the results then of our failure to prevent goitre?.

1. Colloid goitre.
2. Adenomatous goitre without hyperthyroidism.
3. Adenomatous goitre with hyperthyrodism.
4. Exophthalmic goitre (probably).
5. Malignant goitres.
6. Cretinism, deaf-mutism and idiocy.

Most of these conditions, if not all, are made possible at some time by compensatory changes in the thyroid gland incident to an iodine deficiency.

Colloid goitre resulting from compensatory hypertrophy and hyperplasia.

Adenomatous goitre having its inception in the last stages of the same process, and after a period of years becoming adenoma with hyperthyroidism in a great percentage of these cases.

Exophthalmic goitre probably occuring most often in a previously damaged gland.

Malignant goitre found only in adenomatous goitre.

Cretinism, deaf-mutism, and idiocy resulting from incomplete function of the thyroid gland in the pregnant mother.

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COUNCIL PASSED

Notification is being sent to the medical profession that the well known and deservedly popular Haley's M-O, Magnesia Oil has been accepted for N.N.R. of the American Medical Association. Henceforth the product will be known as Magnesia-Mineral Oil (25) Haley. It was certainly a happy thought to combine Liquid Petrolatum and Milk of Magnesia in the form of a permanent, uniform, unflavored emulsion. The taste is not at all unpleasant and the absence of any distinct flavor prevents the habitual user from growing tired of it.

The value of mineral oil as a lubricant and emollient for the treatment of certain forms of obstipation has been well established. In many cases, however, there is added to the need for lubrication the indication for the use of a mild laxative and ant-acid for which purpose years of clinical use have demonstrated Milk of Magnesia to be ideal.

Practically, there exists in many cases of intestinal stasis and constipation a hyperacid condition which calls for the use of an antacid.

Magnesia-Mineral Oil (25) Haley has therefore a therapeutic field considerably broader and more diversified than is the case with either one of its ingredients considered singly.

The makers of this product, were prompt to realize this but were also aware that skepticism or doubt is apt to be aroused when the number of indications for the product is large.

As evidence of good faith and entirely in the interests of the medical profession, numerous questionnaires have been sent out from time to time, giving the physicians an opportunity to indicate exactly under what conditions his use of Magnesia-Mineral Oil (25) Haley proved most satisfactory. Response to these questionnaires has been prompt and numerous.

Tabulations have been carefully made of the replies received from physicians and only those indications mentioned in the literature which proved to have been common to a large number of doctors. In this way it is believed, undue claims have been avoided and the doctors have been given reliable information based upon actual clinical use.

The same method has been employed in the case of the dental profession, because dentists have been prompt to recognize the value of Magnesia-Mineral Oil (25) Haley as an antacid mouth wash. The advertising of this product has been kept within strictly ethical limits. The mails have been used regularly and, judging from the comments received from thousands of physicians, the attempt to call attention to Magnesia-Mineral Oil (25) Haley by the use of something different and original in the form of printed matter has been well received. The little booklet, "A Gift from the Gods" met with a very flattering reception and in the near future another feature will be sent to every physician in this country which will undoubtedly be not only welcome but given a permanent place in the doctor's waiting room, private office or house.

Another policy of the makers of this product is to be generous in the matter of samples for clinical trial and requests for same are always given prompt attention.

—The Haley M-O Co., Inc., Geneva, N. Y.

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PARKE-DAVIS SCIENTIST RETIRES

Following a noteworthy service of 34 years with the house of Parke-Davis & Co., Dr. E. M. Houghton retired from active duty on May 1, but will continue as a member of the company's executive staff, with the title of Consulting Director of the Research and Biological Laboratories.

Dr. Houghton came with Parke, Davis & Company on February 1, 1895, to take charge of research work in pharmacology. He was associated with Dr. Charles McClintock as Junior Director of the company's Biological and Research Laboratories from that time until 1910, when Dr. McClintock retired and Dr. Houghton became Director.

sity of Michigan with the degree of Pharmaceu-

Dr. Houghton was graduated from the Univertical Chemist in 1893, and received the degree of Doctor of Medicine from the same institution in 1895. He was assistant in Pharmacology at the University from 1894 to 1895, immediately prior to joining Parke-Davis & Co.; Lecturer in Pharmacology at the Detroit College of Medicine and Surgery from 1897 to 1902: and also a special lecturer at the University of Michigan for several years after that. He has been for several years chairman of the Biological Section of the American Drug Manufacturs' Association. In 1908, he was appointed by the United States Department of State as delegate to the International Congress of Applied Chemistry held in London.

In scientific circles Dr. Houghton is widely known as a pioneer in the field of biological standardization, having started this work at the University of Michigan in 1894, and continuing at the Park-Davis Biological Research Laboratories, which was the first institution of its kind in America.

His contributions to the literature on the subject have been extensive and valuable, and are recognized as authoritative by scientists both in this country and abroad.

To Dr. Houghton, too, properly belongs the credit for establishing the principles of physiologic standardization. He foresaw the importance and possibilities of this work years before its significance was generally recognized by other pharmacologists either in this country or abroad.

He was a member of the Wayne County Medical Society, the Michigan State Medical Association, the American Medical Association, the American Pharmaceutical Association, the American Physiological Association, the American Society of Bacteriologists, the American Society of Immunologists, and the National Tuberculosis Association.

C. T. HENDERSHOT, M.D.
TULSA
PRESIDENT 1929-1930
OKLAHOMA STATE MEDICAL ASSOCIATION

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Articles sent this Journal for publication and all those read at the annual meetings of the State Association are the sole property of this Journal. The Journal relies on each individual contributor's strict adherence to this well-known rule of medical journalism. In the event an article sent this Journal for publication is published before appearance in the Journal, the manuscript will be returned to the writer.

Failure to receive The Journal should call for immediate notification of the editor, Barnes Building, Muskogee, Oklahoma.

Local news of possible interest to the medical profession, notes on removals, changes in address, births, deaths and weddings will be gratefully received.

Advertising of articles, drugs or compounds unapproved by the Council on Pharmacy of the A. M. A., will not be accepted.

Advertising rates will be supplied on application. It is suggested that wherever possible members of the State Association should patronize our advertisers in preference to others as a matter of fair reciprocity.

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EDITORIAL

FOREWORD

The beginning of a new administration year of the Oklahoma State Medical Association finds us in good shape. The past year under the guidance of Dr. Ellis Lamb was one of the best in the history of the association and the comment was heard on many sides that the thirty-seventh annual meeting held in Oklahoma City recently was one of the best from a scientific standpoint, held in years.

The local committee on arrangements is to be congratulated upon splendid clinics offered and the scientific sessions were of more than passing interest. The utmost harmony prevailed at the business sessions and all seemed ready and willing to co-operate to make the meeting a success.

In assuming the presidency of 1929-1930, I do so with the expressed confidence of the council and delegates for a constructive and, we hope, progressive year in the annals of our association. In extending greetings to the entire membership, I desire especially to thank those whose untiring efforts in my behalf have been conducive to elevating me to the exalted position as the head of my profession in the state for 1929-1930. We have no radical reforms to advocate and no cherished dreams to realize except such as has to do with the good of the association. We realize the futility of a small group of officers trying to make a success of an organization so wide in its scope and shall depend upon each individual member to do his share.

THE COUNCIL

Some new councilor districts have been created and some new councilors selected. These men are the trustes of the association and the censors in their various localities. So much depends upon them. Their deliberations spell success or failure, and knowing each member of the council personally, as I do, I have no fear as to their fitness to undertake so much for the welfare of their constituents.

THE COMMITTEES

Some marked changes have been made in the personnel of the various committees. Standing committees, as provided by the constitution, have been selected on account of the fitness of the men and their interest as manifested along various lines represented.

SPECIAL COMMITTEES

The members of the special committees were selected only after a conferenc with some of the other officers and each man is a leader in his community in his respective line. Much work can be accomplished by these men through correspondence and where possible a meeting at least once a year to review the work assigned them and prepare their annual reports which, by the way, must be in the hands of the secretary sixty days previous to the annual meeting.

COUNTY SECRETARIES

So much depends upon the local secretary. Get a copy of the constitution. Study it. Strive to build up your unit of the organization, prepare interesting and in-

structive programs, keep a strict record of your members, correspond with the head office for advice and council and you will be surprised at the improvement in your society. And last, but not least, I wish to enjoin upon the individual member his duty to his fellows and his local society. Your attendance at its regular session does much to stimulate interest. Go hear the papers. Read one yourself. Occasionally present clinical cases and you will find that your attendance will be an inspiration to others. You will profit to that measure to which you give service and no one ever hears a paper that is not of some profit to them—you learn something to use or avoid. Our earnest endeavor throughout the coming months shall be to co-operate in every way possible to make this a worth while year for our association and in doing so we earnestly hope for the good wishes of all concerned.

Fraternally,
C. T. HENDERSHOT,
President.

THE OKLAHOMA CITY SESSION

The thirty-seventh Annual Session will go down in our history as the most successful medical meeting we have ever held. The attendance was one of the largest (more than 600) the session has ever brought together.

The clinics brought a larger attendance and were more interesting than ever previously given. All the meetings were crowded to capacity. Probably twenty-five per cent of those seeking to attend the general session on the first night could not be accommodated, the same was also true of the sections; these were crowded to an unusual degree. The eye, ear, nose and throat section reported the largest attendance known while the assembly room at the University Hospital was unable to accomodate those desiring to attend the medical section. The exhibit space was crowded to capacity; however this was known in advance, but was the only available space for that purpose.

The second meeting in which orations on surgery, pediatrics, tuberculosis and goiter were rendered, likewise could not accomodate those desiring to be present. All the special dinners had unusually full attendance.

At the general session Rev. Samuel Gibson, Oklahoma City, delivered the invocation; Dr. LeRoy Long, Dean, Oklahoma University Medical School, delivered the address of welcome, which was responded to by Dr. W. T. Salmon of Duncan. After the address of the president, Dr. C. T. Hendershot, Tulsa, Dr. Irwin Abell, Louisville, Ky., delivered an address, which commanded close attention from all those fortunate enough to hear him. The President's reception and dance on the second evening brought out a crowded house.

The devotee to golf was well satisfied with the opportunities he had to enjoy his favorite sport.

Oklahoma City has always been a favorite meeting place and this session has detracted nothing from its enviable reputation in that respect. Physicians attending the meeting, who had never before seen the new school building came away with a great feeling of pride over the growth and equipment of the medical department of our University, and those of us who now belong to what may be termed "older school" feel regret we could not in our day have access to the modern aids of the medical student of today.

A large part of the success of the meeting was due to the untiring efforts of Dr. Arthur W. White, the general chairman. Dr. White found great difficulty in coordinating the many diverse interests to be cared for but succeeded in doing so with as little friction as seems humanly possible.

THE CLEVELAND DISASTER

The medical profession and the public of the United States were inexpressibly shocked at the recent disaster befalling the great Cleveland Clinic, where more than 125 persons lost their lives, due to what seems yet to be unexplainable causes, so far as the public can understand. The first reports of the disaster indicate that the explosion occurring in a store room, which housed X-ray films, produced poisonous gases which caused instant death to many, slow and deferred death to many others. The deaths in many respects are said to have been similar to those produced by war gases. The victims came from all walks of life, including some of America's well known medical men, members of the staff of the clinic, nurses, orderlies and patients.

The exact origin of the explosion, fire, or production of these gases is not yet known and may not be for some time, if ever. Whether ethylene gas may have ori-

ginated the trouble has not been determined. It is said plumbing repairs were being made to a leaking pipe when the explosion occurred.

This disaster is the greatest and most tragic ever occurring in any modern hospital, for that matter it is probably the greatest which has ever occurred in any hospital. The only grain of comfort out of the situation is the sudden bringing home to hospitals throughout the country, the realization that a similar disaster may occur at any time. The tragic incident therefore was immediately followed by inquiry into the location of and safeguarding of stored films throughout the country. The many dangers of ethylene gas are already well known (1) to the profession and every effort has been made to safeguard its use. But despite this, on occasions accidents do occur. The fire hazards of X-ray films (2) has also been known, but apparently not fully appreciated, but attention has been called to their dangers and even rules have been formulated for their proper storage and care (3).

Thorough study of each dangerous situation and feverish efforts to eradicate them are stimulating the activities of hospital managements throughout the country.

(1) Controlling Fire and Explosiion Hazards of Anesthetics. Charles Wardell, Jr., Modern Hospital, February, 1929.

(2) Minimizing Fire Hazards of X-ray Films. R. D. Hobbs. Modern Hospital, November, 1928.

(3) New England Medical Journal, p. 1169, May 30, 1929.

REGISTRY OF CLINICAL LABORATORY TECHNICIANS

The practice of medicine is utilizing more and more the services of trained lay help. This is especially true in the case of the clinical laboratory. Since many of the scientific diagnostic procedures which must be intrusted to the hands of technicians require not only careful technique but also sound judgment based on a background of proper scientific training, it seems quite essential that more attention be given to the education and training of such laboratory workers. Along with the standardization of hospitals and the urgent call for qualified laboratory assistants there has arisen a demand for proper standardization of the preliminary educational and technical training of those enrolled in this new profession.

Those engaged in this useful calling are likewise desirous of raising their status. Since the physicians who are practicing the speciality of clinical pathology are most vitally interested in this question, the American Society of Clinical Pathologists has taken upon itself the task of organizing a registry of technicians with rules under which those qualified by education, technical instruction and moral character will receive a certificate. The headquarters of this registry are located in the Metropolitan Building, Denver, Colorado. Any information desired in regard to the registration of technicians may be obtained by writing to the Registry of Technicians of the American Society of Clinical Pathologists at the above address or to the state representative, Dr. Ralph E. Myers, 1122 East 13th St., Oklahoma City, Oklahoma.

Another very desirable feature of the Registry is the facilities it offers in finding suitable placement for registrants and in aiding physicians to find desirable applicants.

WARNING

Captain Henry H. Howard, alias Capt. Henry Boyd, etc., about 6 feet and 1 inch tall, weight 210 pounds, age 60, neat appearance, Calls on one doctor in town. Represents himself to be a southern gentleman, that his son had moved to Texas or Kansas, was very prosperous farmer, became ill with pneumonia. He takes two specialists and goes to his son, son dies; negro hired man was in debt to him. Neighbor takes negro and refuses to pay the widow the negro's debt. He goes to talk it over with neighbor, is forced to kill negro and sometimes the neighbor. Is trying to get back home. Has plenty of money at home, but cannot wire or draw check, has four or five hundred dollars worth of checks signed by different parties; indorses these checks and turns them over to victim, and asks from forty to one hundred dollars and instructs them to wait a day or two then cash all checks and take out his pay and mail balance back to his daughter-in-law. Please have arrested and wire sheriff at Waurika, Oklahoma, collect.

P. S.—This party is a very good actor, in relating above story he usually cries, shedding tears when he thinks necessary.

Editorial Notes--Personal and General

DR. J. I. HOLLINGSWORTH, Waurika, attended the International Rotary Convention at Dallas in May.

DRS. N. R. HOLCOMBE, C. E. WHITE, and E. H. COACHMAN, Muskogee, visited the St. Louis clinics in June.

DR. J. HUTCHINGS WHITE, Muskogee, after attending the Annual Session, motored to Dallas for the Rotary Convention.

DR. ROBERT L. MITCHELL, Muskogee, will spend a month attending the A. M. A. in Portland and visiting Pacific Coast points.

DR. and MRS. LeMASTER, Tulsa, sailed June 6th, for a four months' stay abroad. Dr. LeMaster will spend three months studying in Vienna.

STEPHENS COUNTY MEDICAL SOCIETY were the guests of Drs. A. M. McMahan and D. Long, at the regular May meeting held at Duncan. After a chicken dinner Dr. McMahan reported a case of "Sympathetic Opthalmia" and Dr. W. T. Salmon gave a lecture on "Ludwig's Angina."

DRS. H. B. FUSTON, Bokchito, and R. E. SAWYER, Durant, were painfully injured and narrowly escaped death when their car was hooked by a passing motorist and dragged more than 600 feet before it was overturned. The accident spoiled the meeting for the doctors, Dr. Sawyer having to remain in the hospital for sometime.

TULSA physicians are complaining that "Mr. Peters" representing "The Oscar Schultz Company", Cleveland, Ohio, has not treated them right. "Mr. Peters" is a plausible young man, weighing 150 or 160 pounds, has light hair and a small mustache. He was unusually interesting to some of our Tulsa friends, when he offered them extracts which if treated properly would make good liquor. "Mr. Peters" got their checks, cashed them and the doctors are still waiting for their "extracts."

THE FIRST INTERNATIONAL CONGRESS on mental hygiene sponsored by Mental Hygiene and related organizations throughout the world, is to be held May 5-10, 1930, at Washington, D.C. As this congress is the first world gathering of leaders and workers in so diversified and significant a movement as the modern mental hygiene movement, its organizers regard it as of unusual importance. They invite the attendance and participation of all who are interested in any phase of mental hygiene.

The American Psychiatric Association and the American Association for the Study of the Feebleminded are planning to hold their annual meetings in conjunction with the International Crongress.

BRANIFF AIRLINES, Inc., of Oklahoma City, operating an air transport company through Oklahoma, North Texas, Kansas and Missouri, announces the inauguration of an aerial ambulance service, the first of its kind, as a part of commercial airline operation. According to officials of the company, the aerial ambulance will be of special value to doctors living in communities remote from hospital facilities, and for emergencies when speedy, dustless and quiet transportation is essential to the patient. The aerial ambulance will fly at an average speed of well over 100 miles an hour, and is fully equipped with rolling cot, linen and emergency materials. Ample room is also providid for a doctor and attendent. Arrangements can be made for the aerial ambulance by phoning 3-8700, Oklahoma City, upon which the plane will be sent immediately. Rates are 40 cents an air mile.

DOCTOR SAMUEL THOMAS CAMPBELL

Dr. Samuel T. Campbell, formerly of Anadarko, died at the Veteran's Hospital, Muskogee, April 27th. Born in Benton County, Missouri, April 29, 1874, he received his preliminary education in the public schools of Missouri. Graduated from the Kansas City Medical College in 1898. Dr. Campbell began his practice at Crescent City, Oklahoma, later moving to Carnegie and then to Anadarko. He was married to Miss Stella May Rexroad, May, 1899, two children surviving this union.

Dr. Campbell entered the World War in 1917 and saw much overseas service in France of the severest kind, being attached to the front line troops. In the Meuse-Argonne offensive he was under heavy artillery fire for several days, only to move from that location where five more were spent. under similar conditions.

He never returned to private practice, leaving the army in 1921 he was transferred to the Indian Medical Service. He became ill six months ago and gradually sank until his death.

Funeral services were under the auspices of the Methodist Church and the American Legion Post at Anadarko. He is survived by his wife, two children, his brother, Dr. Geo. C. Campbell, Anadarko and his sister, Mrs. Maud Moran.

RESOLUTION FOR DR. CHAS. P. LINN

WHEREAS, the Great Ruler of the universe has in his infinite wisdom removed from among us one of our esteemed members, Charles Pickens Linn; and whereas, the long and intimate relation held with him not only in this local society but in our state organization of which he was one of its original members; and whereas, the love and admiration the pioneers and orginal inhabitants of this state still had for him, he having been physician for the Seminole Nation long before statehood, as evidenced by their frequent social visits to his office, therefore,

RESOLVED, that the removal of such a life from among our midst leaves a vacancy and a shadow that will be realized not only by the society but by the community and the public, and be it further,

RESOLVED, that we sympathize deeply with the bereaved relatives of the deceased and hope that so great a loss to us all may be revealed for good by Him who doeth all things well and be it further,

RESOLVED, that a copy of these resolutions be spread upon the minutes of this organization, a copy printed in our state journal, and a copy forwarded to the bereaved family.

F. L. UNDERWOOD
A. W. PIGFORD
V. K. ALLEN
Tulsa County Medical Society.

GENERAL MEETING

Address of Welcome to State Medical Association
By
LEROY LONG, M.D. DEAN
University of Oklahoma, School of Medicine,
May 28, 1929.

Mr. President, Distinguished Guests, Fellows of Oklahoma State Medical Association, Ladies and Gentlemen:

Looking forward to the honor of entertaining the State Association, our County Association mobilized its members and put them to work. In the mobilization scheme carried out by the local committee, I have been assigned the pleasing duty of extending to you a hearty welcome.

It is a common, quite uniform, and, I should say, appropriate custom for visiting organizations to be welcomed by like organizations acting as hosts. It is an appropriate custom because, if for no other reason, it is a polite gesture and in keeping with the social amenities. In our case it would seem to be particularly appropriate because our County Association is a daughter of the State Association. It is the daughter then—and I trust a daughter that is passing fair—who comes with open arms to welcome the mother to Oklahoma City.

Not only do I welcome you in the name of the County Association, but I also welcome you in the name of the citizens of this city. There are about two hundred thousand of them—there will be two hundred thousand by 1930—and I am clothed with authority to speak for them. I come, too, as a representative of the School of Medicine which is very eager to have an active part in extending welcome to you. We feel that the school is honored by having you hold your meetings in the School of Medicine Building. We extend to you welcome now, and we urge you to visit us frequently.

In speaking to you this evening I shall bear in mind that I, like you, have the honor of being a Fellow of Oklahoma State Medical Association. That puts us on common ground and makes it possible for me to speak to you as one brother speaking to other brothers of the same family.

The question of the relation of the profession to the people is always an interesting question—it is interesting and important—so important that it merits our frequent careful consideration.

After an observation covering a number of years, I am firmly convinced that the average individual believes in the medical profession. As a rule, the confidence shown by the laymen in the medical man is hardly less than marvelous. So great is the confidence of the average person that he seldom seeks advice or assistance of irregulars and charlatans until after he has gone to the physician in vain. Almost without exception we have the first chance. It is only after we fail that we are forsaken.

If what I say is true, it is not difficult for us to see what should be done to preserve, perpetuate and make stronger the bond of union between the medical profession and the people—the profession must be prepared to render the service that the people have a right to expect. The paramount function of this Association is to help the members to be able to render such service.

And there is another way to keep the confidence of the people, and that is by preserving the integrity and regularity of our profession. If we consult with the irregulars; if we actually or tacitly approve of our patients going to them for any kind of service; if we permit them to work in our hospitals, we should not be surprised if our patients go to them without consulting us.

It has been said—and said quite often of late—that the medical profession is drifting into commercialism. If by that it is meant that the chief aim of the medical man is to accumulate money, regardless of his duty to his patients, and particularly regardless of his duty to the poor who can not pay, then the charge ought to be met. But it can not be met by unsupported statements or empty assertions. In only one way can the charge be successfully refuted, and that is by demonstrating

through our daily work that we are professional men whose first and chief concern is the earnest and honest solution of scientific problems for the good of those who come to us for assistance.

Would that I were able to stand here and proclaim that the charge is wholly untrue. But, Alas! I can not do that. As it affects the overwhelming majority, I have no doubt that the charge is entirely groundless, because the very character of the service rendered by the great mass of the profession definitely refutes it. But at the same time it must be remembered that the profession is composed of human beings with the frailties of human beings, and sometimes these frailities lead to questionable and even vicious unprofessional practices. Some are too frail to stand.

When the Master was on earth he chose twelve men to go about with him and help him while he taught the people. Twelve men chosen by Jesus of Nazereth, and yet in one of them human greed was so pronounced that he betrayed the Son of God for a few pieces of silver.

Medical schools and licensing boards may use the greatest care and still some are chosen who, dominated by their frailities and viciousness, wander in dark and devious ways.

But, my confreres, regardless of the cause, we should, through both individual and organized effort, do all that we can to stamp out the spirit of commercialism when it is recognized. Its existance is not only a reflection on the medical profession but too often a menace to the safety of the people who trust the profession. It is a menace because the man who practices it makes an honest investigation of the condition of a patient entirely subservient to his desire for money.

When a patient goes to a physician for advice, he goes to him because he has confidence in both his integrity and his ability. He goes with fear, perhaps, but he goes at the same time with hope. He goes prepared in his mind to follow the advice given him even though it may mean much expense, long confinement or a dangerous surgical operation. In order to regain his health, he is willing, if the doctor advises it, to go down into the valley of the shadows. Oh, my brothers in the profession, let us visualize the tremendous importance to such a patient of being directed by a man who not only has ability but who keeps the law of his profession.

On numerous occasions, I have spoken of the traditions and the principles of our profession—traditions and principles upon which the work of the profession is founded. I hold them up before you now, because in them is strength—strength engendered through centuries of earnest travail. I hold them up because there is beauty there—beauty begotten of unselfish work and altruistic endeavor. Yes, and there are gentleness and faith and hope and charity that, like a protecting mantle, shields the sick and the helpless and the unfortunate. In the traditions of our profession there is bravery, too—bravery that causes a man, when need be, to lay down his life for immutable truth and eternal principle.

But they say that traditions are empty. Turn over the pages of history and you will find the answer written there. From Leonidas and the immortal Three Hundred at Thermopylae down to Verdun where serried ranks marched in regular formation day after day straight into the mouth of hell, men have done great deeds and made great sacrifices because of tradition and devotion to principle.

Then let us look back to the traditions of our profession—even back to the ancient days when the great oath was formulated by Hippocrates— the oath that for twenty-four centuries has been the law of our profession. And then let us stop and ask ourselves if we have kept the law.

And as we look back let us try to see again some of those who gave us traditions and ideals. It is an immortal galaxy now behind the veil that separates life from death—Andreas Vesalius is there, and Ambroise Pare; and John Hunter and Harvey and Jenner. There in the picture are the great Pasteur and Koch; Claude Bernard and Lister. And in our own land William Beaumont and Ephriam McDowell; Crawford W. Long and Sims and Walter Reed and Murphy—there they stand—"Like solitary towers in the city of God," because they have labored for humanity and have kept the law.

In Oklahoma State Medical Association there are hidden sources of energy and intelligence; of wisdom and power. I pray that they may be developed for the good of the profession and the people of the State. Believing in you, and with this prayer, I extend to you a most cordial welcome.

MINUTES THIRTY-SEVENTH ANNUAL SESSION, OKLAHOMA STATE MEDICAL ASSOCIATION, OKLAHOMA CITY, MAY 27, 28, 29, 1929:

HOUSE OF DELEGATES

Monday, May 27, 1929, 8:00 P. M.
Oklahoma City

Meeting called to order by the President, Dr. Ellis Lamb, Clinton.

Roll call of delegates by Dr. W. A. Howard, Chelsea, Chairman Credentials Committee.

Report of Credentials Committee accepted.

Moved and seconded that the Minutes of the 1928 meeting as published in the June and July, 1928, Journals, be approved.

Dr. C. A. Thompson, Secretary-Treasurer-Editor: Gentlemen: I have two things to especially call your attention to: the adoption of the new Constitution and By-Laws, which carries a clause that wherever possible Committee reports and other similar reports shall be published in the issue of the Journal preceding the annual session. For that reason the report of the Secretary-Treasurer was published in the May Journal and the reports of the Committees, which you have in your hands, are as follows:

Committee on Tuberculosis, Dr. L. J. Moorman; Cancer Study and Control, Dr. E. S. Lain; Education, Dr. LeRoy Long; Conservation of Vision, Dr. E. S. Ferguson; State Medical Society on Crippled Children, Dr. Earl McBride, and the Secretary-Treasurer's report by myself. I wish to give the delegates opportunity and advance information as to anything they might want to change or comment upon, so those reports are now before you.

Announcement by Dr. Arthur W. White, General Chairman, Oklahoma City, as to entertainments for following day and meeting at Medical School and clinics to be held at St. Anthony's, Wesley, University and Oklahoma City General hospitals on Tuesday, May 28, 1929, was made.

The Redistricting Committee of the House of Delegates reported as follows:

REPORT OF THE RE-DISTRICTING COMMITTEE TO THE HOUSE OF DELEGATES

We, your committee, beg to report that we have carefully gone over the present arrangement of Councilor Districts, taken into consideration the great changes in transportation lines and improvement in roads, which has occurred since the state was last divided into Councilor Districts, and believe that the following division of the state is feasible, practicable, and will be found more satisfactory than the present arrangement:

First District—Texas, Beaver, Cimarron, Harper, Ellis, Woods, Woodward, Alfalfa, Major, Dewey.

Second District—Roger Mills, Beckham, Greer, Harmon, Washita, Kiowa, Custer, Jackson, Tillman.

Third District—Grant, Kay, Garfield, Noble, Payne, Pawnee.

Fourth District—Blaine, Kingfisher, Canadian, Logan, Oklahoma, Cleveland.

Fifth District — Caddo, Comanche, Cotton, Grady, Love, Stephens, Jefferson, Carter, Murray.

Sixth District—Osage, Creek, Washington, Nowata, Rogers, Tulsa.

Seventh District—Lincoln, Pottawatomie, Okfuskee, Seminole, McClain, Garvin, Pontotoc.

Eighth District—Craig, Ottawa, Mayes, Delaware, Wagoner, Adair, Cherokee, Sequoyah, Okmulgee, Muskogee.

Ninth District — Hughes, Pittsburg, Haskell, Latimer, LeFlore, McIntosh.

Tenth District—Johnson, Marshall, Coal, Atoka, Bryan, Choctaw, Pushmataha, McCurtain.

A. H. BUNGARDT,
Chairman.
W. ALBERT COOK.
C. A. THOMPSON.

Adopted May 27, 1929.

Dr. J. M. Byrum, Shawnee: I would like to have the endorsement of the Medical Association for an appropriation for the extension work of the University which has been going on in the State for a number of years; and, whether it is the wish of the Oklahoma medical profession that what is known as the Bureau of Maternity and Infancy be continued. In order to get the matter in some form I move that the President be empowered to select a committee of five to go over the situation and make a recommendation on both the extension service and the Bureau of Maternity and Infancy. I move that a committee be appointed to act for us.

Motion seconded and carried.

Dr. A. L. Stocks, Muskogee, spoke on medical defense.

Dr. L. S. Willour, McAlester, Chairman Medical Defense Committee: During the past year there has been not one single objection or any trouble whatever relative to medical defense in this State. There is no man who has been sued but feels that he is getting his money's worth in the $1.00 a year that he has paid in to the State Medical Society. Oftentimes these suits are settled for less than the $100 which is allowed. In many instances the mere employment of an attorney and answering the petition of the plaintiff stops the suit. When they see that the doctor being sued is prepared to answer and go on in and fight his case the case is withdrawn. This has occurred in many instances throughout the history of medical defense in the State Society in Oklahoma. The mere fact that the Oklahoma State Medical Association is behind each one of its members makes the fellow who is going to bring a malpractice suit think twice before he does it. I don't think there is a doctor here who believes for $1.00 a year that he is being defended through all the courts and probably damages paid in the end. There are men in this room who have called upon this defense fund and received assistance. If any of you think you can go through all the courts on the $1.00 I am glad to advise you the $1.00 does not do this, and in many instances you will find that $100 and the fact that you mean business will settle your suits before they come to trial.

Dr. Stocks: The Secretary has agreed to write an editorial on the subject, so that all the members of the Society will thoroughly understand it, and that is exactly what I had in mind when I spoke.

Dr. Thompson: I have a telegram from Dr. William E. Lower of the Cleveland Clinic, saying he cannot be present on account of the recent disaster.

Dr. McLain Rogers, Clinton, moved that the Secretary be instructed to send message of regret.

Motion seconded and carried.

Dr. Thompson: There are several committees which have made no reports:

Committee on Health Problems in Public Education.
Veneral Disease Control.
Necrology.
Contract and Industrial Practice.
Committee on Crippled Children.

Dr. J. H. Scott, Shawnee: Mr. Chairman, I think some of those committees ought to report. Contract and Industrial Practice, I think that is a very vital question in Oklahoma at this time, and that Committee ought to be requested to make a report. A great many of us are not in touch with this situation.

The President: Let us hear from the Committee on Contract and Industrial Practice.

Dr. ————: There has never been a meeting of the committee during the year, although some of them have desired a meeting. I think it is very important that we get a report from this committee.

The President: Is there any further business to come up this evening? Let us meet at 8:30 in the morning at the new Medical School Building and get the election of officers, and other business that is unfinished, out of the way as quickly as possible. The Credentials Committee will function at the proper time.

If there is nothing further the House will stand adjourned until 8:30 tomorrow morning.

The House then adjourned until 8:30 A. M., May 28, 1929.

C. A. THOMPSON,
Secretary-Treasurer-Editor.

Meeting of the House of Delegates, 8:30 A. M., May 28, 1928.

Called to order by the President, Dr. Ellis Lamb, Clinton, who, after briefly thanking the members for their cooperation and work during his incumbency in office, surrendered the chair to his successor, Dr. C. T. Hendershot, Tulsa. Dr. Hendershot called for report of the Credentials Committee, Drs. W. A. Howard, Chelsea; McLain Rogers, Clinton; A. L. Stocks, Muskogee. Dr. Howard called the roll of the House, which upon summing up was found to consist of 85 members. Dr. Hendershot then stated that the first order of business would be the election of officers, and called for the nomination for president. Dr. A. B. Chase, Oklahoma City, nominated Dr. Edmund S. Ferguson, Oklahoma City, whereupon it was moved that the election be made unanimous, and the Secretary cast the ballot of the House for Dr. Ferguson for President.

The motion was adopted.

For Secretary-Treasurer-Editor, Dr. A. L. Stocks, Muskogee, nominated Dr. Claude A. Thompson, Muskogee, and Wm.

C. Vernon, Okmulgee, nominated Dr. M. B. Glismann, Okmulgee. Ballots were distributed and the tellers reported the vote as follows: For Thompson 52; for Glismann, 32. Dr. E. S. Lain, Oklahoma City, moved that the election be unanimous, which was carried.

NOMINATIONS FOR COUNCILORS

In the redistricting plan adopted at the previous meeting the following Councilors were elected or declared to continue to hold office by reason of not being affected:

First District—Dr. H. A. Lile, Cherokee, elected.

Second District—Dr. Frank H. McGregor, Mangum, elected.

Third District—Dr. Paul B. Champlin, Enid, elected.

Fourth District—Dr. LeRoy Long, Sr., Oklahoma City, elected.

Fifth District—Dr. J. C. Ambrister, Chickasha, elected.

Sixth District—Dr. Walter A. Howard, Chelsea, elected.

Seventh District—Dr. Wm. M. Gallaher, Shawnee, hold over.

Eighth District—Dr. F. M. Adams, Vinita, hold over.

Ninth District—Dr. Leonard S. Willour, McAlester, hold over.

Tenth District—Dr. J. S. Fulton, Atoka, hold over.

Dr. Horace Reed, Oklahoma City, was unanimously re-elected as delegate to the American Medical Asociation, to represent the Association for the years 1931-1932.

For the meeting place for 1930, Dr. J. H. Scott, Shawnee, nominated Shawnee, and Dr. P. P. Nesbitt, Tulsa, nominated Tulsa. Shawnee received 45 votes and Tulsa 10.

The recommendations of the Council as to the budget for the fiscal year were adopted, it being found that the sum of $13,079.00 would be necessary to properly conduct the Association's affairs during the year.

A Committee of the House of Delegates, previously appointed, offered the following motion:

Committee of the House of Delegates

Because we believe its activities have been in the interests of the public and scientific medicine we endorse the work of the Bureau of Maternity and Infancy of the State Health Department for the past five years and urge the Legislature to make adequate appropriations to continue this service.

Special features of the work deserving our support are enumerated below:

1. Instruction to expectant mothers and the mothers of young children by means of the monthly, pre- and post-natal letters, lectures, demonstrations and personal conference with the nurses and suggest that this instruction be pushed even more vigorously.

2. The holding of itinerant demonstration child health conferences in which the physical examinations are made by qualified physicians, with parents instructed to have annual physical examinations of the children using their own physicians.

3. The promotion of post graduate courses in pediatrics and obstetrics, either alone or in cooperation with other recognized and approved agencies.

4. Instructions for potential mothers in the hygiene of maternity and infancy through organized classes either carried on alone or in cooperation with other recognized and approved educational agencies such as teaching training colleges and other schools.

5. Public counsel on how to select qualified professional men.

We, the House of Delegates of the Oklahoma State Medical Association, representing the medical profession of Oklahoma, endorse the work of the University Extension Department of the Oklahoma University in providing post praduate medical courses, conducted by nationally recognized specialists, throughout the state, where these courses are available to the physicians of this state.

We earnestly recommend that the Legislature continue appropriations for this work.

C. M. POUNDERS.
Chairman.
D. LONG.
W. H. HOWARD.
GEO. R. OSBORN.
C. W. ARRENDALL.

The report was unanimously adopted.

Dr. Fred S. Clinton, Tulsa, Chairman, Committee on Contract and Industrial Practice submitted the following report:

Report of Committee on Contract and Industrial Practice to House of Delegates of the State Medical Association.

Your Committe has not been able to complete its work in placing this report on a sound and workable basis.

In view of the importance of the undertaking and the widespread interest and activity in the development of traumatic surgery, and so-called industrial medicine, I would respectfully suggest the appointment of a Committee to make further study and undertake to bring together a better understanding in the interest of the patient, by securing a meeting of the Committee before the next State Medical Association session.

In the interest of the patient, representatives of the following organizations should meet the Committee from the Oklahoma State Medical Association:

1. The Employer.
2. The State Federation of Labor.
3. The Insurance Carrier.
4. The Hospital Association.
5. Industrial Commission.

FRED S. CLINTON,
Chairman.

Presented May 28, 1929, Oklahoma City meeting.

Dr. W. T. Salmon, Duncan, moved that the Secretary be instructed to communicate with the Oklahoma Representatives in Congress and Senate, protesting against any higher rate of duty being imposed upon surgical instruments and similar supplies, covered in the tariff now under consideration. The motion carried.

It was then moved and seconded that the House adjourn, subject to the call of the President. The motion carried.

C. A. THOMPSON,
Secretary-Treasurer-Editor.

PROCEEDINGS OF THE COUNCIL

Oklahoma City, May 27, 1929, 3:00 P. M.

Present: Drs. Ellis Lamb, President, Clinton; L. S. Willour, McAlester; J. S. Fulton, Atoka; Wm. M. Gallaher, Shawnee; F. M. Adams, Vinita; C. T. Hendershot, Tulsa; D. Long, Duncan; C. A. Thompson, Secretary-Treasurer-Editor, Muskogee.

The Committee on Auditing and Appropriations, Drs. F. M. Adams, L. S. Willour and J. S. Fulton, reported that the books of the Secretary-Treasurer-Editor had been audited, found correct and it was moved by Dr. Willour that the report be accepted and approved. The motion carried.

The budget for the fiscal year, May 1, 1929, to April 30, 1930, was discussed and the Auditing and Appropriations Committee directed to make a report.

A Credentials Committee composed to Drs. W. A. Howard, Chelsea; McLain Rogers, Clinton, and A. L. Stocks, Muskogee, was appointed.

A communication from the managers of the meeting on behalf of Oklahoma County was presented by Dr. A. B. Chase, the commnnication having reference to an equitable division of the expenses, incident to the Annual Session by the Oklahoma County Medical Society and the State Medical Association. It was moved by Dr. Hendershot and seconded by Dr. Fulton that a committee, composed of Drs. Fulton, Willour and Adams, be appointed to confer with Dr. Chase, and reports its conclusions to the Council.

Drs. C. T. Hendershot and D. Long, Councilors, reported, respectively, as to the conditions of their Districts. Dr. Hendershot reported the membership in his counties to be at about the point of saturation, and that no complaint had been received.

Dr. D. Long reported that he had visited all counties in his district with the exception of Garvin; that Cotton and Love counties were unorganized, the physicians in those counties, as a rule, belonging to adjacent county societies. Dr. Long was under the impression that the district composed of ten counties was too large and that it should be reduced in size. His report suggested that five counties should be large enough for a district. No other Councilor reported.

The Secretary-Treasurer-Editor called attention to the fact that the Treasurer's bond covered barely one-third of our resources and that for his and the Association's protection the bond should be increased. After some discussion it was moved by Dr. J. S. Fulton and seconded by Dr. D. Long that the bond be increased to $10,000.00. The motion carried. The Council then adjourned to meet again upon call of the President.

C. A. THOMPSON,
Secretary-Treasurer-Editor.

THE COUNCIL

Council, May 28, 1929, 11:00 A. M.

Present: Drs. C. T. Hendershot, President; J. S. Fulton, D. Long, W. A. Howard, W. M. Gallaher, Paul B. Champlin, L. S. Willour, C. A. Thompson, Secretary-Treasurer-Editor.

The committee on the expenses of the Oklahoma City meeting reported by Dr. J. S. Fulton and decision that the State Medical Association should pay half of certain expenses, or $370.00. Motion was adopted that this amount be paid.

Dr. J. S. Fulton moved that hereafter the Council, whenever such should be found necessary, pay $250.00 toward the expenses of the Annual Session. The motion was adopted.

Dr. C. A. Thompson announced that he would be unable to attend the Portland meeting of the American Medical Association. It was moved by Dr. J. S. Fulton that Dr. L. S. Willour represent the Association at Portland in his stead. The motion was adopted.

It was moved by Dr. L. S. Willour that the Council "do not consider at this time any charges which might be filed before the Council." The motion was enlarged to give notice to all persons hereafter bringing charges before the Council shall file such charges at least sixty days before the Annual Session, or the meeting of the Council which would consider them, and that a sufficient number of copies of the charges must be submitted to supply the President, Secretary-Treasurer and each Councilor, as well as the party or parties charged, exact copies of the charges filed. The motion was adopted.

The Auditing and Appropriations Committee asked that the following budget be approved and submitted:

Printing Journal, office supplies, miscellaneous printing	$ 7,000.00
Office rent	384.00
Stamps, office and Journal	315.00
Treasurer's bond	50.00
Press Clippings	60.00
Auditing of books	100.00
Expenses, Oklahoma City meeting	370.00
Council & Delegates' expenses, estimate	1,000.00
Extra clerical work, misc.	200.00

Salary, stenographer	1,200.00
Salary, Secretary-Treasurer-Editor	2,400.00
	$13,079.00

The above estimate was approved.
The Council then adjourned.

C. A. THOMPSON,
Secretary-Treasurer-Editor.

DERMATOLOGY, X-RAY AND RADIUM THERAPY

Edited by C. P. Bondurant, M.D.
413 Medical Arts Building, Oklahoma City

Some Remarks on the Bactericidal Properties of Zinc Oxide. H. Haxthausen, Brit. J. Dermat. 40:497 (Dec.) 1928.

This is a lengthy discussion of the bactericidal qualities of zinc oxide and these qualities are shown to be of greater significance than is commonly supposed. His experiments show that so far as the two classes of bacteria of most importance in the pathologic changes of the skin (staphylocci and streptococci) are concerned, an inhibitory effect under certain conditions is produced by zinc oxide. It also appears that the active substance is an actually bactericidal one, capable of diffusion into the surrounding substratum and not limited to the area directly covered. The formation of acid is a deciding factor of this influence, and experiments show that the inhibitory action of zinc oxide is considerably increased when agar, which is slightly acid, is used instead of neutral agar. Haxthausen feels that zinc oxide is valuable both as a therapeutic agent in established infections of the skin, and as a prophylactic against secondary infections of the various dermatoses. Although zinc oxide is almost neutral in its reaction, it is split up by the acid-producing microbes into disinfectant compounds, thus limiting its action in some degree to the site of the infection. This dependence on the presence of acid gives zinc oxide a peculiar position among the bactericidal substances.

Experimental Blacktongue: Yeast a Preventive. J. Goldberger and others, Pub. Health Rep. 43: 657. (March 23) 1928.

The blacktongue-producing potency of a basic experimental diet, and of three modifications was tested by Goldberger and others, thirty-three times in thirty-one dogs with the production of thirty-three separate attacks of blacktongue. These attacks, with one exception, developed within a period of sixty-one days. Experimental blacktongue is caused by a dietary deficiency which is capable of being corrected by something like yeast. This blacktongue preventive in yeast is inactivated by heat sufficient to char the yeast; it retains its preventive potency in large measure after heating in the steam autoclave at a pressure of fifteen pounds for seven and one-half huors, and it is absorbed from an acidulated aqueous extract of either dried yeast or yeast first autoclaved at a pressure of fifteen pounds by English fuller's earth. It cannot be identified with any of the older well recognized dietary essentials, but is believed to be identical with the thermostable substance of Smith and Hendrick. Both the blacktongue preventive and the pellagra preventive are present in yeast. Besides certain other evidence pointing to the fundamental identity of blacktongue and pellagra, this association strengthens the probability that the blacktongue preventive and the pellagra preventive, or vitamin P-P are identical.

A Contribution to the study of the Staphylococci of the Skin. J. F. Smith, Brit. J. Dermat. 40:-483 (Dec.) 1928.

The author investigated the bacterial flora in cultures made from the washings taken from the hands of 150 persons, of whom 80 had some pyodermia, or moist dermatitis, and 70 an unbroken, not obviously infected skin. He isolated and studied 225 different strains. The investigation thus worked out showed that among the personnel and frequent visitors of a general hospital, it is uncommon for pyococci to be found on the hands unless the person is suffering from a frank pyodermia, or has been in contact with such infection. These cases may be classed as pyococcus-carriers. Smith states that it follows that in cases of recurrent pyogenic infection of the skin, such as furunculosis, etc., surface antisceptics is more rational than attempts at raising the general resistance by means of vaccines and other forms of medication. He has used this observation with success in his practice. During the past six years he has treated 53 patients with recurrent furunculosis with antisceptic lotions and in only five cases has he had to resort to other therapy, the remaining 48 patients responded to local treatment alone. The X-ray was used in nine cases. Any local contributing cause as well as general cause, such as glycosuria was given attention. The author gives a short summary of the bacteriologic examinations in the 150 cases accompanying the article.

Epidemic Pemphigus Neonatorum (Impetigo?): Treatment. J. A. Keho, Northwest Med. 28:37 (Jan.) 1929.

The author of this article uses a one per cent oleate of copper ointment, prepared with lard or olive oil, for the removal of the vernix caseosa, when he feels that the child is infected at the time of birth, before the organism has invaded the child's skin, as well as before it has been distributed to other infants in the nursery. Keho reports that this ointment was used for the removal of the vernix from each child that came to the nursery, during an epidemic in one hospital. On these no vesicles appeared. On those that were already affected, the skin cleared up in a few days after its use. There has not been any epidemic in that hospital since.

Contributions to the Abnormal Forms of Lichenification. E. Bizzozero, and F. Narducci, Ann. de Dermat. et Syph. 9: 857, (Oct.) 1928.

This article contains a discussion of the conception of Brocq and Pautier on the abnormal forms of pruritis and lichenification. The author agrees with the point of view of these two writers and reports two cases as additional and further clinical interest to the conception. The first case reported shows a lichenified patch on the dorsem of the hands, the cutaneous was preceded for some time by a violent pruritis of the hands. The authors enroll the case among the giant lichenifications, so far noted principally on the scrotum and the upper inner thighs. The second case showed large lichenified patches on the outer,

upper legs. There were small conical nodules on the lichenified skin. The development of the skin manifestations was preceded by long continued itching of the area. The clinical picture had features suggestive of lichen ruber moniliformis and lichen obtusus, but the authors regarded it as an example of giant lichenification, basing their opinion partly on histologic study. Thus, they not only accept Brocq and Pautier's conception, but believe that it may be considerably enlarged.

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ORTHOPAEDIC SURGERY

Edited by Earl D. McBride, M.D
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Thirteen Cases of Impacted Medial Fractures of the Neck of the Femur. G. Odelberg-Johnson (St. Erik's Hosp.) Acta Chir. Scandinavica, lxiii, 107, 1928.

The author collected thirteen cases of medial impacted fractures of the femoral neck in women between fifty and eighty-five with osteoporosis. In all cases a wide contact between the fragments was verified from the start by roentgen-ray examination taken in two planes at right angles. Practically all were merely treated with rest in bed for two or three months, and fixation of the limb with sand bags (position not mentioned); no reduction. Massage and movement were initiated as soon as the patient could lift the limb straight from the bed. In spite of early weight-bearing, which the author advises against, eleven cases obtained bony union. Roentgenograms showed maximum decalcification reaching its maximum at two to three months. Only after ten to eleven months did calcification commence, generally as a mottled sclerosis in the fractured ends. Only after about two years is the whole cancellous system of the femoral end reestablished.

These cases tend to confirm the old assumption that a large percentage of impacted medial fractures of the femoral neck unite under formation of callus. In none of the cases did shortening exceed two centimeters. The author believes with Kocher that medial fractures of the femoral neck arising from a blow on the lateral aspect of the great trochanter are a combined compression and bending fracture.

A Case of Osteitis Fibrosa and Multiple Fibromyxomatous Muscle Tumors. Ali Krogins (Helsingfors). Acta Chir. Scandinavica, lxiv, 465, 1928.

The author describes his case of osteoitis fibrosa cystica generalisata in a thirty-eight-year-old female. In the course of five years, several tumors arose in the patient's muscles. This patient had fractured her right tibia six times between the ages of six and fifteen years and presented osteoid and cystic changes in tibiae, fibulae, femora and humerus. A large goiter was present in adolescence. In her second and third decades she was repeatedly operated on for removal of soft-part growths. Histologically these appeared as fairly well defined fibromyxomata.

A similar case in a sixty-six-year-old female was reported by Henschen in 1924. No other reported case is known.

The author believes there exists a genetic relation between the bone and muscle tumors and that both represent a process of fibrous degeneration of analogous character.

In view of the recent work on the pathogenesis of the group of obscure bone dystrophies, the article is of considerable interest.

Concerning the Investigations on the Heredity of Orthopaedic Conditions. E. Isigkeit. Arch. f. Orthop. u Unfall-Chir., xxvi, Oct. 1928.

Concerning the congenital dislocation of the hip, the author could prove on the basis of numerous material that the heredity coefficient is rather high, i. e., twenty per cent. If one further considers that most people have only scant information about their ancestry and relatives, and that in the recession polyhybrid types of heredity a deformity may remain latent for several generations, one should be inclined to set the heredity factor rather high.

The congenital dislocation is the most frequent of all congenital deformities and occurs at the rate of about two per cent of population; the number of people carrying a latent hereditary factor must, therefore, amount to a considerable percentage of the population. We must assume that there are now sexual and dominant sexual factors at work. An accurate hereditary formula cannot be given.

The great number of breech and cross presentations as well as the frequent scarcity of amnion fluid points to mechanical-traumatic factors. Whether these are sufficient explanation is doubtful. Experiments have shown that it is next to impossible to produce a dislocation of the hip in the new born. As far as the pressure of the uterine wall is concerned (smallness of uterus) it may exceptionally be the cause of congenital dislocation, especially in cases associated with other congenital deformities. But the certainty does not apply to the large majority of congenital hip dislocations. There is also no explanation for greater incidence of the congenital hip dislocation on the left side.

Construction Types and Blood Supply of the Foot in Connection with the Mechanics of the Flat-Foot. J. B. Rywlin, Arch. f. Orthop. u. Unfall-Chir., xxvi, 740, Oct. 1928.

There are three types of foot: the arcuar, the flat and intermediate type. From the viewpoint of evolution the arcuar type is the progressive one, the flat type the atavistic one.

The form of the foot is determined by the external fornix (h-e) the greater index characterizes the arcuar and the smaller the flat type. The former view on the so called pes planus spurius in children based on clinical observations (sole impressions) is borne out by anatomical investigations; the index of the outer fornix (arch) may be high, low or intermediate in children. Characteristic for the arcuar fornix is the more powerful development of the trabeculae in comparison with the inner fornix; then the flat-foot conditions are reversed. This latter fact points to the independent function of inner and outer arch. Among the numerous anomalies of arterial supply of the foot, the author also distinguishes three types: the progressive, peculiar to the arcuar type of foot, the development of the dorsal system is prevalent; the atavistic type is characterizd by prevalence in the plantar system of arterial supply; the intermediate type between the former two.

The meager development of the plantar system in the arcuar type of foot must, among the conditions predisposing to flat-foot, create a propensity to develop a pes planus dolorosus. These peculiarities in the blood supply of the arcuar foot may also produce vasomotor disturbances as the primary factor, which secondarily leads to static disturbances.

On the other hand, the predominance of the plantar system in the flat type makes this type very resistant against circulatory impairment. It follows that in the flat type static influences are the primary factors in the development of flat-foot. This applies especially to the severe flat feet which develop without vasomotor symptoms.

An Undescribed Disease of Bone. J. H. Sheldon. British J. Surg., xvi, 405, Jan. 1929.

A boy of eleven developed a bony tumor on the head of the right tibia. At operation this proved to be an osteoma, but multiple fibromata were noted in the patellar tendon. Six years later a second operation was done for recurrence, but the tumor was found to be in the patellar ligament and the capsule of the knee joint with another area in the rectus muscle. The left knee showed a beginning growth with a line of ossification in the patellar ligament. After the second operation the disease developed faster. Soft painless swellings appeared at the wrist, elbow, arm and axilla; ruptured and discharged sterile thick, yellow pus; but then healed. A bony tumor appeared in the right shoulder and humerus and grew rapidly. Death occurred nine months later.

Postmortem examination showed that the tumor of the right shoulder was a spindlecelled osteosarcoma. The right scapula, humerus, and clavicle were imbedded in the tumor which contained bony and cartilaginous areas and which tended to overlie the normal bone. There was bony union between the radius and the carpal bones with nodular bony thickening in the interosseus membrane. Everywhere there was extensive bone formation in the joint capsules, muscles, ligaments, tendons, interosseus membranes and arachnoid. A definite thyroid tumor, aplasia of the bone marrow, and normal chemical analysis of the bones were observed.

It is noted that the lesions found were those found in three bone disorders. In progressive myositis ossificans and hereditary element is present as in this case. The hypothesis is offered that there was an error in the development of one of the chromosomes, giving the picture also found in diaphyseal aclasis. There was also evidence of acromegaly. The case is reported with the hope that it will tend to throw light on the nature and possible interrelationship of these three diseases.

EYE, EAR, NOSE and THROAT

Edited by Jas. C. Braswell, M. D.
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Fracture of the Optic Canal., Barkan, O. and Barkan, H.: Am. Jour. Ophth., 1928, xi, 767.

For years it has been known that following a blow on the frontal region, vision may be lost. The effect on vision is due to fracture of the optic canal, with haemorrhage into the sheath of the nerve or laceration of the nerve, or to fracture of the anterior clinoid process. General or local symptoms may be slight, but perimetric fields show partial constriction in a fair percentage of cases.

The authors have seen twenty-two cases in six years, and in this article report five with visual field charts. They believe that a sector defect extending to and including the macular region is sufficiently characteristic to be pathognomonic. They suggest early operation to remove pressure on the nerve.

Argyrosis of the Tarsal Conjunctiva in an Infant., Vail, D. T., Jr.: Am. J. Ophth., 1928, xi, 782.

Vail reports a case of membranous conjunctivitis in a boy fourteen months old, which was caused by the injudicious use of strong solutions of silver nitrate. When the child was a month old a mucopurulent secretion occurred in the right eye with the formation of a membrane on the tarsal conjunctiva. Six months later the left eye became similarly involved. Silver nitrate solutions varying in strength from two to five per cent were used for months. An ulcer formed on the left eye which, following Saemisch section, became phthisical. As diphtheria bacilli were found diphtheria antitoxin was given. On three occasions all granulation tissue and fibrous exudate was removed down to normal tissue. One radium treatment was given and resulted in a burn on the cheek.

Following an examination of tissue removed by the author, Verhoeff reported that the brownish pigment granules were precipitated silver.

The Diagnosis of Intracranial Lesions of General Interest to the Profession, Referable to the Diseases of the Ear., Farmer, A. W.: Med. J. Australia, 1928, ii, 520.

Purulent labyrinthitis of the diffuse manifest type may occur whenever there is a fistula from the infected middle ear into the labyrinth. Severe vestibular symptoms are produced, including headache, violent vertigo with vomiting, and spontaneous nystagmus to the opposite side. On destruction of the labyrinth, the functional tests will reveal absolute deafness, absence of response to the caloric and rotation tests, and a negative fistula symptom.

Infection spreading into the middle fossa produces a subdural abscess. In the superficial type, headache may be the only symptom. Headache, periorbital pain, and sixth nerve paralysis indicate a deep subdural abscess. Superficial and deep abscesses also occur in the posterior fossa. Meningitis confined to the middle fossa may give rise to headache alone. In basal meningitis, headache is usually localized, but may be general. Lumbar puncture is a valuable diagnostic procedure and not dangerous. The fluid is under increased pressure and is cloudy or purulent. In tuberculous meningitis, the fluid is clear and opalescent.

Temporal lobe abscess may pass through two stages: (1) a manifest stage, in which signs and symptoms are present, and (2) a latent stage which may last for several months with no symptoms beyond headache. In the manifest stage there is drowsiness with headache localized to the temporoparietal lobe. Sometimes tenderness is found in this area on purcussion. Nystagmus

is rare except when the abscess ruptures into the ventricle. Choked disc is seldom seen. A fairly constant sign is partial hemianopsia on the same side as the lesion. Anomia and paraphasia are common.

Sinus thrombosis follows a persinal abscess. The symptoms of sinus thrombosis are euphoria, a sceptic type of temperature with rigors, haematogenous icterus of the conjunctiva, petechiae of the skin, and choked disc. Choked disc appears late in the disease.

In cerebellar abscess, nystagmus is an important sign. It is usually coarser than the nystagmus, due to suppurative disease of the labyrinth. It may be toward either side, but is more usually toward the side of the lesion. It increases as the pressure becomes greater. Choked disc is more common in cases of cerebellar abscess than in those of temporal lobe abscess. Vomiting and headache are constant. Definite vertigo is present. The patient tends to fall toward the side opposite the one on which the lesion is located. Disdiadokokinesis is fairly constant.

An acoustic nerve tumor produces deafness, tinnitus, and vertigo with facial paresis. As the tumor enlarges, the fifth and sixth nerves become involved. Later, the ninth, the tenth and eleventh nerves are affected. The chorda tympani is affected early with consequent loss of taste in the area supplied by this nerve.

The Influenzal Ear., Sharpe, W. S.: Proc. Roy. Soc. Med., Lond., 1928, xxi, 1923.

During the course of influenza, the author has noted several types of ear involvement. The first is characterized by the gradual onset of true nerve deafness, which is of directly toxic origin and in a few cases is followed by complete recovery. The second is characterized by acute myringitis with intermembranous haemorrhages and is relieved by scarification, or myringotomy, if bulging occurs. The third is characterized by inflammation within the tympanic cavity with severe symptoms, but is completely relieved by myringotomy if the operation is performed promptly.

Sharpe concludes that if involvement of the ears by influenza is seen early and treated energetically, surgery of the mastoid will seldom be necessary and complete recovery will usually result without complications.

Tinnitus Aurium: Some Considerations of its Causes, with special references to Analogies., Williams, T. J.: Ann. Otol., Rhinol. and Laryngol., 1928, xxxvii, 922.

Tinnitus aurium is perhaps the most frequent complaint for which treatment by an aurist is sought. It is not a disease in itself nor a definite symptom of aural disease, and its cause is still unknown.

Hissing sounds usually indicate a labyrinth at the point of nerve termination. Clicking is attributed to the spasmodic contraction of the salpingopharyngeus muscle. Bubbling noises may arise from an exudate in the middle ear. Pulsating or beating noises are due to circulatory disturbances. The causative factor may possibly be a general sclerosis, ossification, or calcification of the eighth nerve, or cortex. In some cases, however, the condition is of psychic or neurasthenic origin.

Labyrinthitis, a Complication of Middle-ear Suppuration: A Clinical and Pathological Study., Turner, A. L., and Fraser, J. S.: J. Laryngol. and Otol., 1928, xliii, 609.

Of thirty-one cases of labyrinthitis in which the authors made microscopic studies, the condition followed middle-ear suppuration in five, and chronic purulent otitis media in twenty-six. Only three cases with involvement of the inner ear could be attributed to acute middle ear suppuration.

Of the twenty-six patients with labyrinthitis following chronic middle-ear suppuration, all but three were under thirty-one years of age. The cause of the original ear discharge was ascertained in seven cases. In five it was measles, and in two, scarlet fever.

Cholesteatoma was noted on otoscopic examination, at operation, or on subsequent microscopic examination in twenty of the twenty-six cases. There was only one case of serous labyrinthitis. In six cases, circumscribed labyrinthitis was found in the lateral canal, and in one case, in the cochlea. The purulent stage was noted in thirteen cases, but in five of these there was evidence of granulation or connective tissue.

The Diagnosis and Treatment of Chronic Maxillary Sinus Infection: Extension of the Technique to Include Control of Haemorrhage by Ligation of the Terminal Branches of the Internal Maxillary Artery and Resection of the Middle Meatal Wall Giving Operative Approach to the Ethmoid and Sphenoid Sinuses., Sewall, E. C.: Arch. Otolaryngol., 1928, viii, 405.

In the diagnosis of chronic maxillary sinusitis, the history, the symptoms, the findings of the physical, X-ray, and cytological examinations, and the results of irrigation must be taken into consideration. Sinusitis is to be suspected in cases of recurrent colds in rapid succession in which smears and the cytological examination show an increase in the number of leucocytes. Negative roentgenograms in the presence of a nasal discharge cannot be regarded as conclusive evidence of the absence of sinusitis.

If possible, persons suffering from chronic maxillary sinus infection should move to a region with a warm, dry climate. The non-operative treatment of the condition consists in the use of local measures to decrease swelling in the nose and promote drainage. When surgery is indicated, the author performs a radical Caldwell-Luc operation with removal of the middle meatal wall. To prevent bleeding, the terminal branches of the internal maxillary artery are ligated where they enter the nose. The infra-orbital and supra-orbital ethmoid cells are exenterated and the sphenoid is drained. If necessary, a fronto-ethmosphenoidectomy is performed later. All of the surgery is done under local anaesthesia. One hour before the operation, the patient is given 1-100 gr. of scopolamine and 1-4 gr. of morphine; procaine hydrochloride is injected along the gingivolabial margin; and cocaine crystals are applied intranasally.

TUBERCULOSIS

Edited By
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A Study of Pulmonary Tuberculosis in Children. A. Levinson. The American Review of Tuberculosis, May, 1929.

After a study was made of 119 cases of tuberculosis in children in the Cook County Hospital it was found that the cases fell into three groups as far as pulmonary involvement was concerned: (1) generalized miliary tuberculosis, (2) acute tuberculous pneumonia and, (3) subacute, or chronic pulmonary involvement. There were 69 cases in the first group and fifteen in each of the other two; of these children 25 were White, eleven Mexican and 83 Negro. While active pulmonary tuberculosis is especially frequent among Negro children, the author feels that it is due more to the unfavorable economic conditions under which they live than to any especial racial susceptibility to tuberculosis. Miliary tuberculosis constitutes the bulk of acute pulmonary involvement in children and while nearly every part of the body is infected the lungs and, in the last stages, the meninges produce most of the symptoms. Differential diagnosis between the pneumonic form of miliary tuberculosis and acute tuberculous pneumonia is almost impossible, but consolidation of one or more lobes of the lung, persistent cough, rapid wasting and X-ray findings of consolidation without symptoms of general miliary tuberculosis such as meningitis point to acute tuberculous pneumonia. The author feels that chronic pulmonary tuberculosis in children is not so rare as it was formerly considered, as he has encountered it in fifteen of his 119 cases. Differential diagnosis frequently depends upon an autopsy, but history, physical findings, X-ray and the tuberculin test aid greatly in the diagnosis of pulmonary tuberculosis in children. A history of contact with a tuberculous patient is especially significant. Tuberculin tests are a great aid in establishing a diagnosis; when this test is positive at first and later becomes negative with an exacerbation of symptoms it is considered to point to the development of a miliary process. The main cause of difficulty in diagnosis is the tendency of tuberculosis to simulate other conditions and vice versa; grippe, nontuberculous pneumonia, typhoid fever and meningitis may simulate miliary tubeculosis, while acute pulmonary tuberculosis may be mistaken for acute pneumococcus pneumonia. Chronic pulmonary tuberculosis must be differentiated from nontuberculous bronchitis and from unresolved pneumonia. Bronchiectasis causes some difficulty in diagnosis as the dilatation of the bronchioles is easily mistaken for tuberculous cavities. The mortality in this series of cases was very high, all the cases of miliary and acute tuberculous pneumonia dying. Of the fifteen cases of pulmonary tuberculosis running a chronic course eleven died, one is progressing, two were lost track of and one is doing well. This is partly explained by the fact that most of these patients were brought to the Hospital in an advanced condition. Ultraviolet radiation was tried in some cases with fever under 101 but was found useless; treatment in such advanced cases can be supportive only.

Tuberculosis and Goiter. E. P. Sloan, M. D. The Journal of the American Medical Association, June 18, 1928.

Since goiter and early tuberculosis both produce tachycardia, instability of the pulse, progressive loss of weight, sweating, nervous symptoms, emotional changes and, in many cases, a similar slight increase in the metabolism rate, differential diagnosis is extremely difficult at times. Diagnosis is most important, as it may save the patient years of anxiety and invalidism as well as much needless expense. Three conditions are possible, and must be considered in making an early diagnosis: (1) incipient tuberculosis without demonstrable lung lesion, resembling a mild type of exopthalmic goiter, (2) the mild type of exopthalmic goiter resembling early tuberculosis and, (3) coexistent tuberculosis and goiter. Rest being the essential in the treatment of all these conditions, patients in all three groups are frequently benefitted by sanatorium care, although those in the two latter groups will continue to have a pulse rate higher than the temperature would lead one to expect. The incidence of coexistent tuberculosis and goiter is fairly high, especially in regions where goiter receives much attention. As both diseases tend to disturb metabolism and to produce prolonged toxemia, their combination makes a hard load for the patient to carry. While sanatorium treatment often benefits the patient with both these conditions, surgery is frequently indicated, especially in those cases with arrested tuberculosis and a toxic goiter having a faster pulse rate than would be expected from the temperature, also in those cases showing improvement of the chest condition under routine care with continuation of goiter symptoms and in some cases of advanced tuberculosis with rather sudden development of thyrotoxicosis. If the patient has the resistance to carry both diseases, he should improve remarkably when the thyrotoxicosis is removed. If death from tuberculosis is inevitable, operation is contraindicated. Practically all of the author's 400 patients known to be tuberculous before thyroidectomy, have made satisfactory improvement following the operation.

FLIES

From entomologist, North Carolina State Agricultural Station, and, Journal, Oklahoma State Medical Association, page 167, June, 1919:

Formalin	Ounces I
Water.	
Sweet Milk, A. A. Qs.	Ounces XVI

Expose in shallow plates or saucers, a piece of bread in the center of the fluid gives more space for flies to alight, and attracts a greater number of them.

FORMATION OF VESICAL CALULI

In five cases of urinary lithiasis, Proteus ammoniae was isolated by Benjamin H. Hager and Thomas B. Magath, Rochester, Minn. (Journal A. M. A., Jan. 28, 1928). Calculi can be experimentally produced in the bladder by Proteus ammoniae under favorable conditions. It is possible that deficiency of vitamin A is favorable to the implantation of Proteus ammoniae.

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H. E. Huston ..... Cherokee
L. T. Lancaster ..... Cherokee
H. A. Lile ..... Cherokee
J. W. Mercer ..... Cherokee
A. G. Weber ..... Goltry
H. M. Wheeler.....964½ Central, Kansas City, Mo.

ATOKA COUNTY

Frank Bates ..... Coalgate
John B. Clark ..... Coalgate
J. S. Fulton ..... Atoka
C. C. Gardner ..... Atoka
L. E. Gee ..... Stringtown
H. G. Gobin ..... Lehigh

BECKHAM COUNTY

L. V. Baker ..... Elk City
B. M. Ballenger ..... Strong City
W. S. Carey ..... Rankin
C. C. Conner ..... Erick
J. M. Denby ..... Carter
C. H. Dolph ..... Erick
A. A. Huntley ..... Elk City
E. S. Kilpatrick ..... Elk City
J. E. Levick ..... Carter
R. C. McCreary ..... Erick
T. J. McGrath ..... Sayre
W. D. Oliver ..... Erick
T. D. Palmer ..... Elk City
B. B. Roberts ..... Texola
M. Shadid ..... Elk City
H. K. Speed ..... Sayre
G. H. Stagner ..... Erick
J. E. Standifer ..... Elk City
O. C. Standifer ..... Elk City
DeWitt Stone ..... Sayre
W. C. Threlkeld ..... Sweetwater
V. C. Tisdal ..... Elk City
J. D. Warford ..... Erick
O. N. Windle ..... Sayre

BLAINE COUNTY

J. S. Barnett ..... Hitchcock
J. W. Browning ..... Geary
W. F. Griffin ..... Watonga
Geo. M. Holcomb ..... Okeene
J. B. Leisure ..... Watonga
E. F. Milligan ..... Geary
L. H. Murdock ..... Okeene
A. F. Padberg ..... Canton
D. B. Shaw ..... Okeene
E. P. Veatch ..... Okeene

BRYAN COUNTY

David Armstrong ..... Durant
W. G. Austin ..... Mead
J. A. Bates ..... Seminole
E. W. Bolinger ..... Yarnaby
P. L. Cain ..... Albany
Roy L. Cockran ..... Caddo
B. B. Coker ..... Durant
J. T. Colwick ..... Durant
C. D. Dale ..... Caddo
H. B. Fuston ..... Bokchito
C. J. Green ..... Durant
P. E. Hale ..... Durant
John A. Haynie ..... Durant
W. A. Houser ..... Durant
F. M. Jackman ..... Mead
J. R. Keller ..... Sulphur
R. A. Lively ..... Durant
D. C. McCalib ..... Utica
W. H. McCarley ..... Colbert
B. H. Moore ..... Perrine Bldg. Okla. City
C. F. Moore ..... Durant
C. G. Price ..... Durant
S. W. Rains ..... Aylesworth
G. M. Rushing ..... Durant
R. E. Sawyer ..... Durant
Jas. L. Shuler ..... Durant
C. E. Wann ..... Albany
A. J. Wells ..... Calera
John T. Wharton ..... Durant
W. S. Works ..... Bennington

CADDO COUNTY

P. H. Anderson ..... Anadarko
B. D. Brown ..... Apache
I. S. Butler ..... Carnegie
Geo. C. Campbell ..... Anadarko
Sam'l C. Campbell ..... Tuba City, Ariz
J. H. Cantrell ..... Carnegie
I. RR. Clark ..... Carnegie
Geo. B. Coker ..... Maud
F. Dinkle ..... Fort Cobb
W. L. Dixon ..... Cement
E. W. Downs ..... Hinton
C. P. Gillespie ..... Anadarko
E. W. Hawkins ..... Carnegie
W. T. Hawn ..... Binger
J. J. Henke ..... Hydro
A. F. Hobbs ..... Hinton
Chas. R. Hume ..... Anadarko
E. L. Inman ..... Apache
R. E. Johnston ..... Bridgeport
W. W. Kerley ..... Anadarko
E. N. Meador ..... Anadarko

P. L. McClure ..... Fort Cobb
C. B. McMillan ..... Gracemont
W. B. Putnam ..... Carnegie
R. W. Rector ..... Anadarko
F. W. Rogers ..... Carnegie
C. A. Smith ..... Hinton
A. H. Taylor ..... Anadarko
W. H. Van ..... Cement
R. W. Williams ..... Anadarko
S. E. Williams ..... Hydro

CANADIAN COUNTY

T. M. Aderhold ..... El Reno
Jesse Bird ..... Eldorado
H. C. Brown ..... El Reno
W. B. Catto ..... El Reno
H. A. Dever ..... El Reno
G. L. Goodman ..... Yukon
P. F. Herod ..... El Reno
A. F. Hocker ..... El Reno
A. L. Johnson ..... El Reno
W. P. Lawton ..... El Reno
A. M. McCarthy ..... Yukon
W. J. Muzzy ..... El Reno
P. B. Myers ..... El Reno
J. T. Phelps ..... El Reno
D. P. Richardson ..... Union City
J. T. Riley ..... El Reno
D. F. Stough ..... Geary
G. W. Taylor ..... El Reno
J. E. Tomkins ..... Yukon
L. G. Wolff ..... Okarche

CARTER COUNTY

David Autry ..... Marietta
E. R. Barker ..... Healdton
T. J. Barnwell ..... Graham
J. C. Best ..... Ardmore
F. W. Boadway ..... Ardmore
J. L. Cox ..... Ardmore
John L. Dorrough ..... Ardmore
A. Y. Easterwood ..... Ardmore
O. J. Gee ..... Ardmore
L. D. Gillespie ..... Berwyn
Walter Hardy ..... Ardmore
F. A. Harrison ..... Ardmore
W. S. Hathaway ..... Lone Grove
R. H. Henry ..... Ardmore
H. A. Higgins ..... Ardmore
J. T. Hines ..... St. Louis
T. J. Jackson ..... Ardmore
G. E. Johnson ..... Ardmore
Walter M. Johnson ..... Ardmore
J. C. McNeese ..... Ardmore
John R. Pollock ..... Ardmore
W. C. Sain ..... Ardmore
J. W. Shelton ..... Ardmore
E. E. Shivers ..... Ardmore
R. C. Sullivan ..... Ardmore
Dow Taylor ..... Woodford
F. P. von Keller ..... Ardmore
L. B. Wood ..... Wilson

CHEROKEE COUNTY

J. S. Allison ..... Tahlequah
Swartz Baines ..... Tahlequah
A. A. Baird ..... Tahlequah
T. J. Bond ..... Tahlequah
P. H. Medearis ..... Tahlequah
J. M. Thompson ..... Tahlequah

CHOCTAW COUNTY

E. R. Askew ..... Hugo
C. H. Hale ..... Boswell
K. P. Hampton ..... Maud
G. E. Harris ..... Hugo
W. N. Johns ..... Hugo
E. A. Johnson ..... Hugo
J. S. Miller ..... Hugo
J. D. Moore ..... Hugo
Reed Wolfe ..... Hugo
Herbert L. Wright ..... 3338 Clinton St., Berwyn, Ill

CLEVELAND COUNTY

C. S. Bobo ..... Norman
I. T. Bond ..... Norman
T. M. Boyd ..... Norman
Arthur Brake ..... Norman
G. M. Clifton ..... Norman
B. H. Cooley ..... Norman
J. L. Day ..... Norman
T. J. Dodson ..... Norman
Gayfree Ellison ..... Norman
J. J. Gable ..... Norman
D. W. Griffin ..... Norman
F. E. Hilsmeyer ..... Norman
H. B. Kniseley ..... Norman
J. B. Lambert ..... Lexington
R. D. Lowther ..... Norman
W. T. Mayfield ..... Norman
Gertrude Nielson ..... Norman
Chas. Rayburn ..... Norman
Carl Steen ..... Norman
E. F. Stephens ..... Norman
R. E. Thacker ..... Lexington
J. M. Thuringer ..... Norman
L. A. Turley ..... Norman
M. M. Wickham ..... Norman
G. W. Wiley ..... Norman

COMMANCHE COUNTY

H. A. Angus ..... Lawton
J. T. Antony ..... Lawton
G. S. Barber ..... Lawton
A. H. Benson ..... Faxon
Jackson Broshears ..... Lawton
E. B. Dunlap ..... Lawton
P. G. Dunlap ..... Lawton
E. S. Gooch ..... Lawton
L. T. Gooch ..... Lawton
F. W. Hammond ..... Lawton
J. R. Hood ..... Indiahoma
C. P. Hues ..... Lawton
C. W. Joyce ..... Fletcher
G. E. Kerr ..... Chattanooga
Louise S. King ..... Lawton
L. C. Knee ..... Lawton
T. R. Lutner ..... Lawton
J. W. Malcolm ..... Lawton
C. W. Martin ..... Elgin
W. J. Mason ..... Lawton
W. B. Mead ..... Lawton
E. B. Mitchell ..... Lawton
A. H. Stewart ..... Lawton

COTTON COUNTY

C. W. Alexander ..... Temple
G. W. Baker ..... Walters
C. F. Houser ..... Walters

CRAIG COUNTY

F. M. Adams ..... Vinita
Louis Bagby ..... Vinita
C. P. Bell ..... Welch
N. L. Cornwell ..... Meridian
B. L. Elam ..... Centralia
F. T. Gastineau ..... Vinita
P. L. Hays ..... Vinita
A. W. Herron ..... Vinita

W. R. Marks ..... Vinita
R. L. Mitchell ..... U. S. Vet. Hosp., Muskogee
C. S. Neer ..... Vinita
J. H. L. Staples ..... Bluejacket
D. B. Stough ..... Vinita
J. F. Walker ..... Grove

CREEK COUNTY

W. G. Bisbee ..... Bristow
O. C. Coppedge ..... Bristow
O. S. Coppedge ..... Depew
O. H. Cowart ..... Bristow
G. C. Croston ..... Sapulpa
C. M. Driver ..... Mounds
H. A. Haas ..... Sapulpa
W. E. Harrington ..... Depew
J. E. Hollis ..... Bristow
Leon Izgar ..... Lincoln Hospital, Bronx, N. Y.
Alva Jones ..... Sapulpa
Ellis Jones ..... Sapulpa
E. W. King ..... Bristow
J. B. Lampton ..... Sapulpa
R. E. Leatherock ..... Drumright
P. K. Lewis ..... Sapulpa
W. P. Longmire ..... Sapulpa
J. M. Mattenlee ..... Sapulpa
C. L. McCallum ..... Sapulpa
C. R. McDonald ..... Manford
Paul Mote ..... Sapulpa
Wm. J. Neal ..... Drumright
C. B. Reese ..... Sapulpa
E. W. Reynolds ..... Bristow
S. W. Reynolds ..... Drumright
Paul Sanger ..... Drumright
Chas. T. Shrader ..... Bristow
Frank H. Sisler ..... Bristow
G. W. Sisler ..... Bristow
O. W. Starr ..... Drumright
R. M. Sweeney ..... Sapulpa
Fred W. Turner ..... Sapulpa
E. R. Weaver ..... Shamrock
John M. Wells ..... Bristow
Geo. H. Wetzel ..... Sapulpa
J. Clay Williams ..... Bristow

CUSTER COUNTY

C. J. Alexander ..... Clinton
T. A. Boyd ..... Weatherford
E. E. Darnell ..... Clinton
J. T. Frizzell ..... Clinton
D. Gaede ..... Weatherford
K. D. Gossom ..... Custer
J. R. Hinshaw ..... Butler
*A. J. Jeter ..... Clinton
Ellis Lamb ..... Clinton
E. M. Loyd ..... Taloga
C. G. McBurney ..... Clinton
O. H. Parker ..... Custer
W. W. Parker ..... Thomas
McLain Rogers ..... Clinton
N. E. Ruhl ..... Weatherford
W. E. Seba ..... Leedy
Frank R. Vieregg ..... Clinton
Gordon D. Williams ..... Weatherford

DEWEY COUNTY

Frank W. Allen ..... Leedy

GARFIELD COUNTY

R. C. Baker ..... Enid
Paul B. Champlin ..... Enid
L. W. Cotton ..... Enid
Julian Field ..... Enid

——*Deceased.

Glenn Francisco ..... Enid
J. W. Francisco ..... Enid
O. R. Gregg ..... Enid
V. R. Hamble ..... Enid
D. C. Harris ..... Drummond
G. O. Hartman ..... Sharon, Pa.
J. H. Hays ..... Enid
T. B. Hinson ..... Enid
P. W. Hopkins ..... Enid
F. A. Hudson ..... Enid
W. L. Kendall ..... Enid
W. G. Kiebler ..... Enid
W. C. Lamerton ..... Enid
S. N. Mayberry ..... Enid
S. H. McEvoy ..... Enid
A. L. McInnis ..... Enid
J. W. Moore ..... Enid
Wm. P. Neilson ..... Enid
W. B. Newell ..... Enid
A. S. Piper ..... Enid
W. H. Rhodes ..... Enid
D. D. Roberts ..... Enid
F. P. Robinson ..... Nash
R. D. Stone ..... Covington
J. R. Swank ..... Enid
C. W. Tedrowe ..... Enid
H. F. Vandever ..... Enid
J. R. Walker ..... Enid
J. M. Watson ..... Enid
R. H. Wigner ..... Enid
A. E. Wilkins ..... Covington
E. J. Wolf ..... Waukomis

GARVIN COUNTY

T. C. Branum ..... Pauls Valley
S. L. Burns ..... Stratford
J. R. Calloway ..... Pauls Valley
J. E. Cochran ..... Byars
H. V. Dresbach ..... Earlsboro
Lewis Gaddy ..... Stratford
W. P. Greening ..... Pauls Valley
T. F. Gross ..... Lindsay
G. L. Johnson ..... Pauls Valley
E. H. Lain ..... Lindsay
N. H. Lindsey ..... Pauls Valley
W. A. Logan ..... Maysville
H. P. Markham ..... Pauls Valley
Hugh H. Monroe ..... Lindsay
W. E. Rauls ..... Paoli
M. E. Robberson ..... Wynnewood
A. H. Shi ..... Stratford
L. P. Smith ..... Elmore City
C. L. Sullivan ..... Elmore City
Edw. F. Taylor ..... Maysville
J. W. Tucker ..... Lindsay
Thos. Walker ..... Wynnewood
H. P. Wilson ..... Wynnewood

GRADY COUNTY

R. C. Antle ..... Chickasha
J. C. Ambrister ..... Chickasha
W. R. Barry ..... Alex
Walter J. Baze ..... Chickasha
Martha Bledsoe ..... Chickasha
W. L. Bonnell ..... Chickasha
U. C. Boone ..... Chickasha
H. A. Calvert ..... Chickasha
M. M. Carmichael ..... Alex
W. H. Cook ..... Chickasha
C. P. Cox ..... Ninnekah
E. L. Dawson ..... Chickasha
D. S. Downey ..... Chickasha
L. E. Emanuel ..... Chickasha
Roy E. Emanuel ..... Chickasha

H. M. Evans ..... Rush Springs
G. R. Gerard ..... Chickasha
P. J. Hampton ..... Rush Springs
A. E. Hennings ..... Tuttle
R. Hume ..... Minco
A. B. Leeds ..... Chickasha
J. S. Little ..... Minco
W. H. Livermore ..... Chickasha
S. O. Marrs ..... Chickasha
R. H. Mason ..... Chickasha
C. P. Mitchell ..... Chickasha
A. W. Nunnery ..... Chickasha
J. L. Renegar ..... Tuttle
A. C. White ..... Chickasha
L. E. Woods ..... Chickasha

GRANT COUNTY

G. T. Drennan ..... Pond Creek
A. Hamilton ..... Manchester
I. V. Hardy ..... Medford
E. E. Lawson ..... Medford
S. A. Lively ..... Wakita
J. M. Tucker ..... Nash

GREER COUNTY

C. W. Austin ..... Mangum
G. F. Border ..... Mangum
M. E. Chambers ..... Vinson
G. P. Cherry ..... Granite
W. O. Dodson ..... Willow
J. B. Hollis ..... Mangum
O. K. Jeter ..... Mangum
C. F. Jones ..... Vinson
J. B. Lansden ..... Granite
J. T. Lowe ..... Mangum
F. H. McGregor ..... Mangum
J. S. Meredith ..... Duke
T. J. Nunnery ..... Granite
L. E. Pearson ..... Mangum
E. M. Poer ..... Mangum
C. C. Shaw ..... Mangum

HARMON COUNTY

Samuel W. Hopkins ..... Hollis
Wm. G. Husband ..... Hollis
J. E. Jones ..... Hollis
Russel H. Lynch ..... Hollis
W. T. Ray ..... Gould
W. M. Yeargan ..... Hollis

HASKELL COUNTY

A. T. Hill ..... Stigler
E. Johnson ..... Kinta
J. W. McDonald ..... Hoyt
J. C. Rumley ..... Stigler
R. F. Terrell ..... Stigler
T. B. Turner ..... Stigler
N. K. Williams ..... McCurtain

HUGHES COUNTY

W. D. Atkins ..... Holdenville
J. A. Bentley ..... Allen
*R. J. Crabill ..... Allen
A. L. Davenport ..... Holdenville
G. W. Diggs ..... Wetumka
T. B. Felix ..... Holdenville
W. E. Floyd ..... Holdenville
L. J. George ..... Stewart
S. H. Hamilton ..... Non
C. A. Hicks ..... Wetumka
F. A. Howell ..... Holdenville
J. M. Lett ..... Dustin
C. C. Martin ..... Calvin
D. Y. McCary ..... Holdenville

——*Deceased.

P. E. Mitchell ..... Wetumka
R. D. Morris ..... Stewart
J. F. Musser ..... Calvin
C. E. Parker ..... Dustin
Ira W. Robertson ..... Holdenville
J. D. Scott ..... Holdenville
W. L. Taylor ..... Gerty
C. S. Wallace ..... Holdenville
G. H. Wallace ..... Holdenville
C. Cash Whittle ..... Holdenville

JACKSON COUNTY

E. A. Albernathy ..... Altus
Thos. M. Berry ..... Eldorado
R. F. Brown ..... Altus
A. C. Byars ..... Elmer
Emory S. Crow ..... Olustee
J. E. Ensey ..... Blair
R. H. Fox ..... Altus
J. B. Hix ..... Altus
J. A. Humphrey ..... Martha
E. W. Mabry ..... Altus
R. H. Mays ..... Duke
L. H. McConnell ..... Altus
J. S. McFaddin ..... Altus
W. H. Price ..... Eldorado
O. S. Pyle ..... Altus
J. R. Reid ..... Altus
W. P. Rudell ..... Altus
C. G. Spears ..... Altus
D. O. Spencer ..... Headrick
R. Z. Taylor ..... Blair

JEFFERSON COUNTY

W. T. Andreskowski ..... Ryan
W. M. Browning ..... Waurika
Wm. C. Burgess ..... Ringling
D. B. Collins ..... Waurika
J. I. Derr ..... Waurika
W. J. Dorsey ..... Ringling
F. M. Edwards ..... Ringling
J. I. Hollingsworth ..... Waurika
A. B. Holsted ..... Templin
C. M. Maupin ..... Waurika
J. M. McPherson ..... Terral
A. T. Reed ..... Hastings
W. R. Strasner ..... Ryan
J. I. Taylor ..... Ringling
L. L. Wade ..... Ryan
F. W. Watson ..... Ryan

JOHNSON COUNTY

Guy Clark ..... Wapanucka
J. T. Looney ..... Tishomingo

KAY COUNTY

W. O. Armstrong ..... Ponca City
C. W. Arrendell ..... Ponca City
J. H. Beatty, Jr. ..... Tonkawa
G. L. Berry ..... Blackwell
Chas. Blank ..... Ponca City
H. S. Browne ..... Ponca City
Merl Clift ..... Blackwell
F. M. Cooper ..... Ponca City
D. M. Cowgill ..... Health Dept., Twin Falls, Idaho
G. W. Dunham ..... Three Sands
P. A. Edwards ..... Nardin
R. B. Gibson ..... Ponca City
G. H. Gowey ..... Newkirk
A. S. Haven ..... Blackwell
A. W. Hawkins ..... Blackwell
A. L. Hazen ..... Newkirk
Lawson Hughes ..... 206 Bliss Bldg., Tulsa
J. A. Jones ..... Tonkawa
A. C. Kramer ..... Ponca City
W. M. Leslie ..... Blackwell
W. P. Lipscomb ..... Ponca City

D. L. Matthews ..... Tonkawa
W. N. McClurkin ..... Ponca City
Thos. McElroy ..... Ponca City
D. W. Miller ..... Blackwell
L. G. Neal ..... Ponca City
G. H. Niemann ..... Ponca City
C. E. Northcutt ..... Ponca City
A. S. Nuckols ..... Ponca City
A. S. Risser ..... Blackwell
T. L. Robinson ..... Ponca City
L. C. Vance ..... Ponca City
E. E. Waggoner ..... Tonkawa
J. C. Wagner ..... Ponca City
I. D. Walker ..... Tonkawa
J. C. Wall ..... Tonkawa
John W. Werner ..... Newkirk
W. S. White ..... Blackwell

KINGFISHER COUNTY

E. R. Cavett ..... Loyal
A. Dixon ..... Hennessey
Chas. W. Fisk ..... Kingfisher
C. O. Gose ..... Hennessey
V. J. Jeffery ..... Kingfisher
Jno. W. Pendleton ..... Kingfisher
Newton Rector ..... Hennessey
Frank Scott ..... Kingfisher
B. I. Townsend ..... Hennessey
I. H. Vincent ..... Dover

KIOWA COUNTY

J. L. Adams ..... Hobart
J. D. Ballard ..... Mt. View
J. M. Bonham ..... Hobart
J. k. Bryce ..... Snyder
Melvin Gray ..... Mt. View
J. T. Hamilton ..... Snyder
A. H. Hathaway ..... Mt. View
J. A. Land ..... Hobart
H. C. Lloyd ..... Hobart
F. F. Martin ..... Roosevelt
Wm. McIlwain ..... Lone Wolf
E. P. Miles ..... Hobart
J. H. Moore ..... Hobart
J. A. Muller ..... U. S. Vet. Hosp. Muskogee
C. R. Preston ..... Mountain Park
J. M. Ritter ..... Roosevelt
F. E. Walker ..... Lone Wolf
B. H. Watkins ..... Hobart
J. D. Winter ..... Hobart

LATIMER COUNTY

E. L. Evins ..... Wilburton
E. B. Hamilton ..... Wilburton
J. M. Harris ..... Wilburton
T. L. Henry ..... Wilburton
C. R. Morrison ..... Ada
R. L. Rich ..... Red Oak

LEFLORE COUNTY

F. P. Baker ..... Talihina
J. B. Beckett ..... Spiro
G. R. Booth ..... LeFlore
E. L. Collins ..... Panama
S. C. Dean ..... Howe
J. Dorraugh ..... Monroe
W. M. Duff ..... Braden
E. N. Fair ..... Heavener
W. C. Gilliam ..... Spiro
Harrell Hardy ..... Poteau
J. J. Hardy ..... Poteau
J. H. Harvey ..... Heavener
W. J. Hunt ..... Poteau
L. D. Jones ..... Talihina
W. F. Lunsford ..... Poteau
R. W. Minor ..... Williams
A. M. Mixon ..... Spiro
Wm. L. Shippey ..... Wister
W. E. Van Cleave ..... Talihina
J. B. Wear ..... Poteau
E. M. Woodson ..... Poteau
R. L. Wright ..... Talihina

LINCOLN COUNTY

J. W. Adams ..... Chandler
W. D. Baird ..... Stroud
F. C. Brown ..... Sparks
R. A. Brown ..... Prague
W. P. Cottrell ..... Chandler
W. B. Davis ..... Tryon
W. H. Davis ..... Chandler
Para Erwin ..... Wellston
J. O. Glenn ..... Stroud
J. M. Hancock ..... Chandler
R. H. Hannah ..... Prague
H. C. Iles ..... Prague
A. M. Marshall ..... Chandler
Levi Murray ..... Wellston
U. E. Nickell ..... Davenport
F. H. Norwood ..... Prague
J. S. Rollins ..... Prague
J. W. Sosbee ..... Stroud

LOGAN COUNTY

Robt. Allen ..... Guthrie
C. B. Barker ..... Guthrie
E. O. Barker ..... Guthrie
Pauline Barker ..... Guthrie
C. S. Branson ..... Coyle
J. O. Butler ..... Crescent
A. G. T. Childers ..... Mulhall
P. B. Gardner ..... Marshall
E. E. Goodrich ..... Crescent
Dan Gray ..... Guthrie
L. A. Hahn ..... Guthrie
C. B. Hill ..... Guthrie
W. H. Larkin ..... Guthrie
Leslie Lehew ..... Guthrie
J. L. Melvin ..... Guthrie
Wm. C. Miller ..... Guthrie
C. S. Petty ..... Guthrie
R. F. Ringrose ..... Guthrie
L. W. Ritzhaupt ..... Guthrie
J. E. Souter ..... Guthrie
F. E. Trigg ..... Guthrie
A. A. West ..... Guthrie

MAJOR COUNTY

J. V. Anderson ..... Fairview
Elsie L. Specht ..... Fairview

MARSHALL COUNTY

*T. A. Blaylock ..... Madill
W. H. Ford ..... Sudan, Texsa
W. D. Haynie ..... Kingston
J. L. Holland ..... Madill
P. F. Robinson ..... Madill
J. H. Veazey ..... Madill

MAYES COUNTY

Sylba Adams ..... Pryor
W. C. Bryant ..... Choteau
J. E. Hollingsworth ..... Pryor
Carl Puckett ..... Oklahoma City
L. C. White ..... Pryor

McCLAIN COUNTY

G. S. Barger ..... Purcell
O. O. Dawson ..... Wayne
I. N. Kolb ..... Blanchard
W. C. McCurdy ..... Purcell
W. B. Slover ..... Blanchard

——*Deceased.

McCURTAIN COUNTY

N. L. Barker	Broken Bow
A. W. Clarkson	Valliant
C. R. Huckabay	Valliant
E. A. Kelleam	Geary
J. T. Moreland	Idabel
W. A. Moreland	Idabel
R. H. Sherrill	Broken Bow
J. M Thompson	Walters
R. D. Williams	Idabel

McINTOSH COUNTY

Dyton Bennett	Texanna
N. P. Lee	Checotah
D. E. Little	Eufaula
J. H. McColloch	Checotah
F. L. Smith	Eufaula
Wm. A. Tolleson	Eufaula
G. W. West	Eufaula

MURRAY COUNTY

P. V. Annadown	Sulphur
H. C. Bailey	Sulphur
Ernest Ball	Sulphur
A. P. Brown	Davis
B. B. Brown	Davis
I. N. Brown	Fletcher
F. S. Coolen	Skellytown, Texas
J. C. Luster	Davis
W. H. Powell	Gotebo
A. S. Riddle	Sulphur
Geo. W. Slover	Sulphur
O. W. Sprouce	Sulphur
W. H. Williamson	Sulphur

MUSKOGEE COUNTY

S. G. Hamm	Haskell
R. T. Harrod	Oktaha
O. E. Howell	Washington
W. R. Joblin	Porter
W. E. Pearce	Boynton
T. T. Shackleford	Haskell
C. W. Vowell	Porum
J. R. Waltrip	Coweta

MUSKOGEE

H. T. Ballantine	Manhattan Bldg.
W. D. Berry	Barnes Bldg.
J. L. Blakemore	Barnes Bldg
E. H. Coachman	Barnes Bldg.
C. E. DeGroot	Manhattan Bldg
R. N. Donnell	Raymond Bldg.
F. G. Dorwart	Barnes Bldg
K. M. Dwight	808 No. "C" Street
Albert Earnest	Barnes Bldg.
A. W. Everly	Equity Bldg
F. W. Ewing	Surety Bldg.
E. H. Fite	Barnes Bldg.
F. B. Fite	Barnes Bldg.
W. P. Fite	Barnes Bldg.
S. J. Fryer	Manhattan Bldg.
C. M. Fullenwider	Barnes Bldg.
A. W. Harris	Surety Bldg.
C. W. Heitzman	Barnes Bldg.
N. R. Holcombe	Surety Bldg.
E. S. Keith	Dayton Street
F. S. King	Surety Bldg.
O. C. Klass	Surety Bldg.
S. E. Mitchell	U. S. Vet. Hosp.
A. L. Mobley	U. S. Vet. Hosp.
C. P. Murphy, Edw. Hines Hosp.	Maywood, Ill.
Shade D. Neely	Barnes Bldg.
J. T. Nichols	Equity Bldg.
I. B. Oldham, Jr.,	426 N. 6th
I. B. Oldham, Sr.	426 N. 6th
J. G. Rafter	Manhattan Bldg.
John Reynolds	Masonic Bldg.
C. V. Rice	Barnes Bldg.
H. A. Scott	Manhattan Bldg.
Hugh Scott	Maywood, Ill.
M. V. Stanley	Commercial Nat'l Bldg.
A. L. Stocks	Barnes Bldg.
C. A. Thompson	Barnes Bldg.
M. K. Thompson	Surety Bldg.
J. S. Vittum	Barnes Bldg.
F. L. Walton	Surety Bldg.
Floyd E. Warterfield	Commercial Nat'l Bldg.
C. E. White	Surety Bldg.
J. H. White	Surety Bldg.
Fred J. Wilkiemeyer	Barnes Bldg.
I. C. Wolfe	426 So. 6th. Street

NOBLE COUNTY

R. A. Cavitt	Morrison
D. F. Coldiron	Perry
S. H. Gaines	Lucien
L. Kuntz	Perry
B. A. Owen	Perry
T. F. Renfrow	Billings

NOWATA COUNTY

E. F. Collins	Nowata
John R. Collins	Nowata
Fred R. Dolson	Nowata
D. M. Lawson	Nowata
S. P. Roberts	Nowata
M. B. Scott	Delaware
J. P. Sudderth	Nowata
G. A. Waters	Lenapah

OKFUSKEE COUNTY

A. C. Adams	Weleetka
C. M. Bloss	Okemah
C. C. Bombarger	Paden
M. O. Bryce	Okemah
A. M. Chambers	Levelland, Texas
C. M. Cockran	Okemah
J. A. Kennedy	Okemah
R. Keyes	Okemah
A. C. Lucas	Castle
A. J. Moyse	Castle
L. A. Nye	Okemah
Frank B. Patterson, 1st Nat'l Bk. Bl.,	Exeter, Cal.
J. M. Pemberton	Okemah
J. R. Preston	Weleetka
T. R. Preston	Weleetka
L. J. Spickard	Okemah
A. J. Stephenson	Okemah

OKLAHOMA COUNTY

R. G. Fitz	Bethany
T. H. Flesher	Edmond
J. I. Lyon	Edmond
A. M. Ruhl	Edmond
S. N. Stone	Edmond

OKLAHOMA CITY

J. M. Alford	Medical Arts Bldg.
E. P Allen	1200 North Walker
L. E. Andrews	Medical Arts Bldg.
F. M. Bailey	1219 W. 21st St.
W. H. Bailey	300 W. 12th
Marguerite Baker	1200 N. Walker
Ray M. Balyeat	Medical Arts Bldg.
C. E. Barker	Medical Arts Bldg.
J. J. Batchelor	Medical Arts Bldg.
C. E. Bates	519 Elks Bldg.
C. N. Berry	Medical Arts Bldg.
M. R. Beyer	2006 W. 39th
J. G. Binkley	Medical Arts Bldg.
C. D. Blachly	Medical Arts Bldg.

L. S. Blachly ..... State Capitol Bldg.
A. L. Blesh ..... 300 W. 12th
Nathan Boggs ..... Perrine Bldg.
F. J. Bolend ..... Medical Arts Bldg.
Rex Bolend ..... Medical Arts Bldg.
C. P. Bondurant ..... Medical Arts Bldg.
Geo. L. Borecky ..... Medical Arts Bldg.
H. C. Bradley ..... Perrine Bldg.
D. W. Branham ..... 1200 No. Walker
C. L. Brundage ..... Medical Arts Bldg.
T. A. Buchanan ..... Amer. Nat'l. Bldg.
H. W. Butler ..... 1200 N. Walker
L. F. Cailey ..... 4529 Spruce St., Philadelphia, Pa.
Albert Cates ..... Medical Arts Bldg.
J. J. Caviness ..... 1200 N. Walker
A. B. Chase ..... Colcord Bldg.
H. H. Cloudman ..... Medical Arts Bldg.
Cyril E. Clymer ..... Medical Arts Bldg.
A. J. Coley ..... Medical Arts Bldg.
H. D. Collins ..... Medical Arts Bldg.
P. H. Crawford ..... Medical Arts Bldg.
S. R. Cunningham ..... Medical Arts Bldg.
H. J. Daily ..... 606 Medical Arts Bldg.
C. E. Davis ..... Medical Arts Bldg.
E. P. Davis ..... 432 Commerce Exchange
C. R. Day ..... 1st. Nat'l Bldg.
F. A. DeMand ..... Colcord Bldg.
Seymour DePorte ..... American Nat'l Bldg.
W. H. Dersch ..... Shops Bldg.
G. K. Dickson ..... Medical Arts Bldg.
V. G. Dougherty, ... American Mission, Gorei, Abyssinia, Africa
T. W. Dowdy ..... Medical Arts Bldg.
R. O. Early ..... Medical Arts Bldg.
E. D. Earnhart ..... 1316 W. 10th
W. E. Eastland ..... Medical Arts Bldg.
R. T. Edwards ..... 1st. Nat'l Bk. Bldg.
N. P. Eley ..... Medical Arts Bldg.
F. B. Erwin ..... Medical Arts Bldg.
J. B. Eskridge ..... 1200 N. Walker
E. S. Ferguson ..... Medical Arts Bldg.
C. J. Fishman ..... 132 W. 4th.
H. A. Foerster ..... Medical Arts Bldg.
W. A. Fowler, 216 Canyon Drive, Monrovia, Calif.
S. E. Frierson ..... Medical Arts Bldg.
W. B. Fuller ..... Stock Yards Bank Bldg.
Geo. Fulton ..... Amer. Nat'l. Bldg.
Geo. H. Garrison ..... 1200 N. Walker
E. Goldfain ..... 516 Elks Bldg.
P. K. Graening ..... Medical Arts Bldg.
J. W. Gray ..... Huckins Estate Bldg.
M. S. Gregory ..... Medical Arts Bldg.
A. L. Guthrie ..... Medical Arts Bldg.
C. H. Hall ..... 614 Medical Arts Bldg.
A. H. Haney ..... Medical Arts Bldg.
Frank Harbison ..... Terminal Bldg.
J. E. Harbison ..... Terminal Bldg.
P. E. Haskett ..... 1st. Nat'l Bldg.
J. A. Hatchett ..... Medical Arts Bldg.
B. A. Hayes ..... Medical Arts Bldg.
J. E. Heatley ..... Medical Arts Bldg.
Fred B. Hicks ..... Medical Arts Bldg.
G. W. Hinchee ..... 1415 W. 34th
A. C. Hirshfield ..... Medical Arts Bldg.
J. R. Holliday ..... Medical Arts Bldg.
J. J. Hoover ..... 206 City Hall Bldg.
R. M. Howard ..... Medical Arts Bldg.
C. A. Howell ..... Perrine Bldg.
Geo. Hunter ..... Box 1717, Wewoka
Leon Janco ..... 10 W. Park
H. G. Jeter ..... Univesity Hosp.
W. J. Jolly ..... Medical Arts Bldg.
H. C. Jones ..... Medical Arts Bldg.
J. F. Kelly ..... Medical Arts Bldg.
J. Kelso ..... Medical Arts Bldg.
S. E. Kernodle ..... 119 W. 5th
V. Kuchar ..... Shops Bldg.
J. H. Kuhn ..... Medical Arts Bldg.
E. S. Lain ..... Medical Arts Bldg.
Wm. Langsford ..... Gen. Del., Tucson, Ariz.
Wann Langston ..... University Hosp.
Geo. LaMotte ..... Colcord Bldg.
N. E. Lawson ..... Medical Arts Bldg.
C. E. Lee ..... Equity Bldg.
E. E. Lehmer ..... 132 W. 4th
A. R. Lewis ..... Shops Bldg.
F. M. Lingenfelter ..... Medical Arts Bldg.
LeRoy Long ..... Medical Arts Bldg.
LeRoy D. Long ..... Medical Arts Bldg.
Ross D. Long ..... Medical Arts Bldg.
T. R. Longmire ..... 322 1-2 N. Broadway
R. E. Looney ..... R. F. D. No. 6, Nashville, Tenn.
R. S. Love ..... Medical Arts Bldg.
Dick Lowry ..... Medical Arts Bldg.
Tom Lowry ..... Medical Arts Bldg.
R. S. MacCabe ..... Medical Arts Bldg.
E. Margo ..... 717 N. Robinson
J. T. Martin ..... Medical Arts Bldg.
G. F. Mathews ..... State Capitol Bldg.
E. D. McBride ..... 717 N. Robinson
J. C. McDonald ..... 300 W. 12th
J. P. McGee ..... Medical Arts Bldg.
D. D. McHenry ..... Medical Arts Bldg.
L. C. McHenry ..... Medical Arts Bldg.
J. R. McLauchlin ..... Medical Arts Bldg.
P. M. McNeill ..... Medical Arts Bldg.
W. H. Miles ..... 203 City Hall Bldg.
R. C. Mills ..... 203, City Hall Bldg.
Floyd Moorman ..... 1200 N. Walker
L. J. Moorman ..... 1200 N. Walker
C. D. Moore ..... Perrine Bldg.
Ellis Moore ..... Medical Arts Bldg.
M. V. Moth ..... Amer. Nat'l Bldg.
J. Z. Mraz ..... 300 W. 12th
R. L. Murdoch ..... Medical Arts Bldg.
E. R. Musick ..... Medical Arts Bldg.
W. M. Mussil ..... Perrine Bldg.
R. E. Myers ..... St. Anthony's Hosp.
L. A. Newton ..... Medical Arts Bldg.
N. R. Nowlin ..... 1239 N. Lottie
J. W. Padberg ..... 1800 W. 16th
K. G. Parks ..... Medical Arts Bldg.
D. D. Paulus ..... 301 W. 12th.
G. Penick ..... Colcord Bldg.
A. S. Phelps ..... Medical Arts Bldg.
John C. Pickard ..... Medical Arts Bldg.
J. S. Pine ..... Medical Arts Bldg.
J. M. Postelle ..... 947 W. 13th
C. M. Pounders ..... 210 W. 10th
J. S. Price ..... Medical Arts Bldg.
J. A. Reck ..... Colcord Bldg.
Horace Reed ..... 1200 N. Walker
Ruth Reichmann ..... Medical Arts Bldg.
Lea A. Riely ..... Medical Arts Bldg.
John W. Riley ..... 119 W. 5th
J. H. Robinson ..... 300 W. 12th
J. A. Roddy ..... Medical Arts Bldg.
M. M. Roland ..... Medical Arts Bldg.
J. B. Rolater ..... Shops Bldg.
F. E. Rosenberger ..... Security Bldg.
W. W. Rucks ..... 300 W. 12th
R. E. Runkle ..... Medical Arts Bldg.
L. M. Sackett ..... Amer. Nat'l Bldg.
A. L. Salomon ..... 1200 N. Walker
A. J. Sands ..... Medical Arts Bldg.
F. A. Sanger ..... Cotton Exchange Bldg.
F. M. Sanger ..... Cotton Exchange Bldg.
Winnie M. Sanger ..... Cotton Exchange Bldg.
F. C. Sheets ..... Perrine Bldg.
M. Smith ..... 1400 N. Classen Blvd.
J. B. Snow ..... 1200 N. Walker
N. S. Starr ..... Medical Arts Bldg.

L. J. Starry	1200 N. Walker
J. C. Stephenson	801 E. 13th
M. E. Stout	Medical Arts Bldg.
E. S. Strader	Medical Arts Bldg.
S. P. Strother	Medical Arts Bldg.
Ernest Sullivan	Medical Arts Bldg.
E. S. Sullivan	Medical Arts Bldg.
A. C. Syfert	Perrine Bldg.
Geo. Tabor	Amer. Nat'l Bldg.
C. B. Taylor	Medical Arts Bldg.
W. M. Taylor	1200 N. Walker
H. Coulter Todd	Colcord Bldg.
C. W. Townsend	Medical Arts Bldg
H. H. Turner	1200 N. Walker
E. L. Underwood	1st Nat'l Bldg.
E. R. Vahlberg	Perrine Bldg.
C. Von Wedel	Colcord Bldg.
T. G. Wails	Medical Arts Bldg.
W. J. Wallace	Medical Arts Bldg.
J. C. Warmack	Colcord Bldg.
M. W. Weir	Colcord Bldg.
Eva Wells	Medical Arts Bldg.
W. W. Wells	Medical Arts Bldg.
W. K. West	Medical Arts Bldg.
L. M. Westfall	Medical Arts Bldg.
A. W. White	Medical Arts Bldg.
Oscar White	Medical Arts Bldg.
S. F. Wildman	Medical Arts Bldg.
H. M. Williams	Medical Arts Bldg.
E. C. Wilson	Medical Arts Bldg.
K. J. Wilson	Medical Arts Bldg.
E. L. Yeakel	Medical Arts Bldg.
A. D. Young	Medical Arts Bldg.
A. M. Young	Perrine Bldg.

OKMULGEE COUNTY

Lin Alexander	Okmulgee
T. C. Alexander	Okmulgee
A. J. Black	Okmulgee
I. W. Bollinger	Henryetta
H. D. Boswell	Henryetta
T. C. Carloss	Morris
M. D. Carnell	Okmulgee
C. H. Cooke	Beggs
W. M. Cott	Okmulgee
J. G. Edwards	Okmulgee
J. B. Ferguson	Okmulgee
M. B. Glismann	Okmulgee
R. L. Hamilton	Beggs
O. O. Hammonds	Oklahoma City
W. W. Hicks	Okmulgee
F. H. Hollingsworth	Okemah
W. S. Hudson	Okmulgee
A. G. Hughey	Dewar
G. A. Kilpatrick	Henryetta
S. B. Leslie	Okmulgee
J. O. Lowe	Okmulgee
T. J. Lynch	Okmulgee
J. C. Matheney	Okmulgee
G. Y. McKinney	Henryetta
J. A. Milroy	Okmulgee
C. M. Ming	Okmulgee
W. C. Mitchener	Okmulgee
R. Mooney	Henryetta
J. P. Nelson	Schulter
H. L. Rains	Okmulgee
D. M. Randel	Okmulgee
H. O. Randel	Okmulgee
J. C. Rembert	Okmulgee
J. C. Robinson	Henryetta
E. D. Rodda	Okmulgee
F. E. Sadler	Henryetta
W. C. Sanderson	Henryetta
N. N. Simpson	Henryetta
W. W. Stark	Okmulgee
L. B. Torrance	Okmulgee
W. C. Vernon	Okmulgee
J. O. Wails	Okmulgee
V. M. Wallace	Morris
F. S. Watson, Grad. Hos. Univ. Pa.,	Philadelphia
W. S. Watson	Okmulgee
L. B. Windham	Okmulgee

OSAGE COUNTY

W. H. Aaron	Pawhuska
E. T. Alexander	Barnsdall
D. H. Baker	DeNoya
R. J. Barritt	Pawhuska
C. N. Caton	Wynona
W. W. Chase	Barnsdall
A. R. Chisholm	Pawhuska
T. J. Colley	Hominy
C. H. Day	Pawhuska
B. E. Dozier	Webb City
Herman Fagin	Osage
F. R. First	Mayo Bldg. Tulsa
J. J. Fraley	Hominy
G. I. Garrison	Fairfax
G. W. Goss	Pawhuska
Thos. P. Govan	Pawhuska
C. H. Guild	Shidler
J. T. Gunter	Barnsdall
M. Karasek	Shidler
E. C. Keyes	Shidler
E. N. Lipe	Fairfax
C. K. Logan	Hominy
Q. B. Neale	Pawhuska
A. S. Price	209 E. 23rd St., N. Y.
J. M. Reed	Fairfax
M. E. Rust	Pawhuska
J. G. Shoun	Fairfax
*A. J. Smith	Pawhuska
G. E. Stanbro	Pawhuska
B. F. Sullivan	Barnsdall
H. L. Summers	Pub. Square, Marion, Ill.
G. I. Walker	Hominy
Roscoe Walker	Pawhuska
C. W. Williams	Pawhuska
L. C. Williams	Pawhuska
Divonis Worten	Pawhuska

OTTAWA COUNTY

E. A. Aisenstadt	Picher
J. R. Barry	Picher
J. O. Bradshaw	Welch
V. V. Butler	Picher
R. F. Cannon	Miami
D. L. Connell	Picher
W. G. Chesnut	Miami
G. W. Colvert	Miami
A. M. Cooter	Miami
J. W. Craig	Miami
F. R. Deans	Miami
M. M. DeArman	Miami
Burleigh DeTar	Miami
Geo. A. DeTar	Miami
W. M. Dolan	Picher
J. B. Hampton	Commerce
R. H. Harper	Afton
F. P. Helm	Miami
J. Walter Hough	Miami
J. C. Jacobs	Miami
J. S. Jacoby	Commerce
John C. Kitchen	Picher
J. M. Lanning	Picher
J. B. Lightfoot	Miami
E. D. Mabry	Hockerville
F. V. Meriwether	Miami
H. K. Miller	Fairland
Chas. McCallum	Quapaw

*Deceased

Chas. A. McClelland ..... Miami
Guy P. McNaughton ..... Maimi
J. T. Moon ..... Miami
F. M. O'Kelley ..... Picher
I. Phillips ..... Picher
General Pinnell ..... Miami
J. W. Prowell ..... Kansas, Okla.
B. W. Ralston ..... Commerce
Richard Russell ..... Picher
W. B. Smith ..... Miami
G. W. Taylor ..... Quapaw
L. W. Trout ..... Afton
G. O. Webb ..... Cardin
M. P. Willis ..... Commerce
J. P. Williams ..... Picher
J. H. Woodard ..... Picher
F. L. Wormington ..... Miami

PAWNEE COUNTY

C. W. Ballaine ..... Cleveland
C. A. Beeler ..... Pawnee
C. E. Beitman ..... Pawnee
H. B. McFarland ..... Cleveland
J. A. Roberts ..... Cleveland
E. T. Robinson ..... Cleveland

PAYNE COUNTY

J. E. Adams ..... Cushing
C. H. Beach ..... Glencoe
L. A. Cleverdon ..... Stillwater
W. N. Davidson ..... Cushing
Benj. Davis ..... Cushing
O. H. Friedemann ..... Stillwater
G. H. Gillen, 1415 Cheyenne Rd., Colo. Spr's, Colo.
R. N. Graham ..... Yale
E. M. Harris ..... Cushing
D. J. Herrington ..... Cushing
W. R. Holbrook ..... Perkins
W. B. Hudson ..... Yale
T. A. Love ..... Cushing
H. C. Manning ..... Cushing
J. F. Martin ..... Stillwater
L. A. Mitchell ..... Stillwater
W. C. Mitchell ..... Cushing
W. R. Mote ..... Ripley
D. L. Perry ..... Cushing
P. M. Richardson ..... Cushing
R. E. Roberts ..... Stillwater
C. E. Sexton ..... Stillwater
R. J. Shull ..... Stillwater
R. E. Waggoner ..... Stillwater
L. R. Wilhite ..... Perkins

PITTSBURG COUNTY

V. H. Barton ..... McAlester
F. J. Baum ..... McAlester
J. C. Breedlove ..... Quinton
J. B. Bright ..... Kiowa
R. L. Browning ..... Hartshorne
C. J. Brunson ..... McAlester
A. D. Bunn ..... Savanna
H. N. Bussey ..... Pittsburg
A. E. Carlock ..... Hartshorne
J. W. Crews ..... Adamson
T. S. Chapman ..... McAlester
J. E. Davis ..... McAlester
Joe Dorrough ..... Haileyville
J. W. Echols ..... McAlester
A. Griffith ..... McAlester
W. P. Hailey ..... Haileyville
C. T. Harris ..... Kiowa
J. C. Johnston ..... McAlester
Geo. Kilpatrick ..... McAlester
L. C. Kyrkendall ..... McAlester
W. P. LeWallen ..... Canadian
T. H. McCarley ..... McAlester
J. A. Munn ..... McAlester
Thos. T. Norris ..... Krebs
J. F. Park ..... McAlester
C. M. Pearce ..... McAlester
R. K. Pemberton ..... McAlester
W. G. Ramsay ..... Quinton
O. W. Rice ..... McAlester
W. W. Sames ..... Hartshorne
H. D. Shankle ..... Hartshorne
J. C. Schlicht ..... McAlester
Ernest Thomas ..... Quinton
W. C. Waite ..... McAlester
F. L. Watson ..... McAlester
A. J. Welch ..... McAlester
C. O. Williams ..... McAlester
L. S. Willour ..... McAlester
McClellan Wilson ..... McAlester

PONTOTOC COUNTY

N. B. Breckenridge ..... Meridia, Yucatan, Mexico
J. G. Breco ..... Ada
Catherine T. Brydia ..... Ada
Ernest A. Canada ..... Ada
R. T. Castleberry ..... Ada
J. R. Craig ..... Ada
Isham L. Cummings ..... Ada
B. B. Dawson ..... Ada
W. F. Dean ..... Ada
T. G. Forsythe ..... Allen
T. Fuller ..... 2300 S. Central, Oklahoma City
R. L. Gee ..... Ada
L. S. Johnston ..... Snomac
R. F. King ..... Ada
Wilson H. Lane ..... Ada
E. F. Lewis ..... Ada
M. L. Lewis ..... Ada
Sam A. McKeel ..... Ada
M. C. McNew ..... Ada
C. F. Needham ..... Ada
S. P. Ross ..... Ada
J. A. Rutledge ..... Ada
A. R. Sugg ..... Ada
W. R. Threlkeld ..... Ada
M. M. Webster ..... Ada
O. E. Welborn ..... Ada

POTTAWATOMIE COUNTY

R. M. Anderson ..... Shawnee
G. H. Applewhite ..... Shawnee
McKenzie A. Baker ..... Shawnee
W. A. Ball ..... Wanette
Geo. S. Baxter ..... Shawnee
W. C. Bradford ..... Shawnee
J. M. Byrum ..... Shawnee
H. G. Campbell ..... Shawnee
F. LeRoy Carson ..... Shawnee
U. S. Cordell ..... Macomb
R. R. Culbertson ..... Maud
J. E. Cullum ..... Earlsboro
R. A. Douglas ..... Maud
J. L. Fortson ..... Tecumseh
Wm. M. Gallaher ..... Shawnee
John I. Gaston ..... Shawnee
David W. Gillick ..... Shawnee
E. J. Gray ..... Tecumseh
J. E. Hughes ..... Shawnee
E. F. Hurlbut ..... Meeker
R. C. Kaylor ..... McLoud
J. W. Marshall ..... Shawnee
W. F. Mathews ..... Earlsboro
A. C. McFarling ..... Shawnee
E. E. Norvell ..... Shawnee
C. F. Paramore ..... Shawnee
Edgar E. Rice ..... Shawnee
Eugene E. Rice ..... Shawnee
Tagwell D. Rowland ..... Shawnee
J. H. Royster ..... Wanette

Thos. C. Sanders	Shawnee
J. H. Scott	Shawnee
W. S. Stevens	Shawnee
J. M. Stooksbury	Shawnee
Jas. H. Turner, Cumberland Hosp.,	Brooklyn, N. Y.
H. A. Wagner	Shawnee
J. A. Walker	Shawnee
J. E. Walker	Shawnee
A. J. Williams	Shawnee
A. M. Williams	Shawnee

PUSHMATAHA COUNTY

J. A. Burnett	Dunbar
G. B. Colby	Darwin
D. W. Connally	Clayton
B. M. Huckabay	Antlers
H. C. Johnson	Antlers
J. S. Lawson	Clayton
E. S. Patterson	Antlers

ROGER MILLS COUNTY

J. N. Shaunty	Hammon

ROGERS COUNTY

F. A. Anderson	Claremore
A. M. Arnold	Claremore
Caroline Bassman	Claremore
C. W. Beson	Claremore
J. C. Bushyhead	Claremore
W. F. Hays	Claremore
W. A. Howard	Chelsea
K. D. Jennings	Chelsea
W. S. Mason	Claremore
R. C. Meloy	Claremore
J. C. Smith	Catoosa
J. C. Taylor	Chelsea

SEMINOLE COUNTY

C. W. Bates	Seminole
W. R. Black	Little
T. H. Briggs	Wewoka
O. C. Butler	Seminole
C. S. Chambers	Seminole
John Davis	Seminole
A. N. Deaton	Wewoka
A. F. Gieson	Konawa
J. P. Grimes	Wewoka
A. R. Hancock	Seminole
J. N. Harber	Seminole
T. F. Harrison	Wewoka
T. A. Hill	Seminole
W. F. Hooper	Bowlegs
W. T. Huddleston	Konawa
H. A. Kiles	Konawa
W. L. Knight	Wewoka
W. J. Long	Konawa
W. S. Martin	Wewoka
J. D. McGovern	Wewoka
J. T. Mills	Sasakowa
N. W. Mills	Snomac
W. L. Moore	Sasakowa
D. D. Mosher	Seminole
J. T. Price	Seminole
J. B. Reynolds	Seminole
B. A. Salzberg	Seminole
J. H. Smith	Seminole
A. B. Stephens	Seminole
F. L. Stratton	Seminole
Guy B. VanSandt	Wewoka
A. A. Walker	Wewoka
T. H. Ware	Seminole

SEQUOYAH COUNTY

S. B. Jones	Sallisaw
J. A. Morrow	Sallisaw
T. F. Wood	Sallisaw

STEPHENS COUNTY

J. P. Bartley	Duncan
J. R. Brewer	Marlow
B. H. Burnett	Duncan
C. T. Caraker	Duncan
J. B. Carmichael	Duncan
C. P. Chumley	Duncan
K. B. Ford	Route 1, Cruce, Okla.
S. S. Garrett	Loco
G. O. Hall	Duncan
P. B. Hall	Marlow
C. M. Harrison	Comanche
W. S. Ivy	Duncan
F. M. Johnson	Loco
J. H. Linzy	Comanche
D. Long	Duncan
W. Z. McLain	Marlow
A. M. McMahan	Duncan
J. A. Mullins	Marlow
J. W. Nieweg	Duncan
L. M. Overton	Duncan
J. D. Pate	Duncan
J. L. Patterson	Duncan
C. C. Pruitt	Comanche
C. C. Richards	Marlow
R. W. Richardson	Comanche
R. L. Russell	Marlow
W. T. Salmon	Duncan
L. L. Smith	Duncan
C. N. Talley	Marlow
E. B. Thomasson	Duncan
A. J. Weedn	Duncan
H. J. Weedn	Duncan
S. H. Williamson	Duncan

TEXAS COUNTY

R. B. Hayes	Guymon
Wm. H. Langston	Guymon
D. S. Lee	Guymon
Wm. J. Risen	Hooker
C. E. Wilson	Boise City

TILLMAN COUNTY

C. C. Allen	Frederick
J. E. Arrington	Frederick
O. G. Bacon	Frederick
J. E. Childers	Tipton
J. W. Colyer	Tipton
G. A. Comp	Manitou
R. L. Fisher	Frederick
W. C. Foshee	Grandfield
W. A. Fuqua	Grandfield
H. C. Harris	Grandfield
M. M. MacKeller	Loveland
J. D. Osborn, Jr.	Frederick
F. G. Priestley	Frederick
J. C. Reynolds	Frederick
H. L. Roberts	Frederick
T. F. Spurgeon	Frederick
H. H. Wilson	Frederick
Harper Wright	217½ W. "C" Ave. Oklahoma City, Okla.

TULSA COUNTY

T. P. Allison	Sand Springs
C. E. Calhoun	Sand Springs
B. J. Davis	Sand Springs
Onis Franklin	Broken Arrow
R. K. Goddard	Skiatook
F. S. Halm	Sand Springs
Bunn Harris	Jenks
V. D. Herrington	Keystone
H. L. Hille	Collinsville
B. H. Humphries	Sperry
A. Hutchinson	Bixby

J. H. Laws ..... Broken Bow
B. W. McLean ..... Jenks
J. C. Perry ..... Sand Springs
E. L. Pierce ..... Skiatook
J. M. Stemmons ..... Collinsville
H. P. Ward ..... Box 2, Leonard
W. W. Webster ..... Pawnee
F. M. Wilks ..... Collinsville
C. W. Young ..... Cleveland
G. W. Zink ..... Red Fork

TULSA

V. K. Allen ..... 1001 Medical Arts Bldg.
C. M. Ament ..... 305 Ritz Bldg.
E. R. Anderson ..... 410 McBirney Bldg
O. C. Armstrong ..... 812 Medical Arts Bldg.
R. Q. Atchley ..... 507 Medical Arts Bldg.
P. N. Atkins ..... 1011 Medical Arts Bldg.
J. H. Barham ..... 314 New Daniels Bldg.
E. E. Baum ..... 708 Medical Arts Bldg.
D. A. Beard ..... 314 Roberts Bldg.
W. W. Beesley ..... 510 Palace Bldg.
J. W. Beyer ..... 501 Palace Bldg.
J. J. Billington ..... 404 Medical Arts Bldg
J. F. Bolton ..... 211 Medical Arts Bldg.
Fred M. Boso ..... 214 New Daniels Bldg.
S. J. Bradfield ..... 607 Medical Arts Bldg.
C. E. Bradley ..... 202 Medical Arts Bldg.
J. C. Braswell ..... 1109 Medical Arts Bldg.
J. C. Brogden ..... 708 Mayo Bldg.
J. E. Brookshire ..... 507 Palace Bldg.
H. S. Browne ..... 616 Medical Arts Bldg.
P. B. Brown ..... 517 Medical Arts Bldg.
W. J. Bryan, Jr. ..... 801 Medical Arts Bldg.
J. P. Butcher ..... 204 Robinson Bldg.
W. H. Calhoun ..... 604 So. Cincinnati
H. W. Callahan ..... 902 Medical Arts Bldg.
W. M. Campbell ..... 1301½ E. 15th.
P. N. Charbonnett ..... 206 Medical Arts Bldg.
H. C. Childs ..... 710 Medical Arts Bldg.
J. W. Childs ..... 710 Medical Arts Bldg.
Fred S. Clinton ..... 323 Wright Bldg.
G. H. Clulow ..... 208 Masonic Bldg.
E. L. Cohenour ..... 1102 Medical Arts Bldg.
W. Albert Cook ..... 1107 Medical Arts Bldg.
T. B. Coulter ..... 1011 Medical Arts Bldg.
Fred Y. Cronk ..... 801 Medical Arts Bldg.
Albert C. Daves ..... 417 Medical Arts Bldg.
T. H. Davis ..... 404 Medical Arts Bldg.
W. A. Dean ..... 610 Medical Arts Bldg.
Nevin Dieffenbach ..... 708 S. Cincinnati
C. A. Dillon ..... 209 Daniel Bldg.
Roy W. Dunlap ..... 808 Medical Arts Bldg.
A. V. Emerson ..... 211 Medical Arts Bldg.
H. J. Evans ..... 202 Medical Arts Bldg.
H. L. Farris ..... Medical Arts Bldg.
H. C. Farris ..... 1702 S. Quannah
W. J. Feehan ..... 807 S. Elgin
R. A. Felt ..... 305 Ritz Bldg.
F. L. Flack ..... 822 Mid-Continent Bldg.
O. A. Flanagan ..... 302 Medical Arts Bldg.
G. W. Flinn ..... 310 Medical Arts Bldg.
H. W. Ford ..... 608 Tulsa Trust Bldg.
E. W. Foster ..... 206 Medical Arts Bldg.
Joseph Fulcher ..... 404 Medical Arts Bldg.
G. Garabedian ..... 1235 So. Boulder
D. L. Garrett ..... 604 S. Cincinnati
Paul C. Geissler ..... 2224 S. St. Louis
J. B. Gilbert ..... 307 Roberts Bldg.
F. A. Glass ..... 404 Medical Arts Bldg.
Sam'l Goodman ..... 603 Medical Arts Bldg.
J. F. Gorrell ..... 610 Medical Arts Bldg.
Bennett Graff ..... 1702 So. Quannah
H. C. Graham ..... 1235 S. Boulder
Harry Green ..... 1116 Medical Arts Bldg.
Ross Grosshart ..... 517 Wright Bldg.
G. H. Hall ..... 420 McBirney Bldg.
C. H. Haralson ..... 816 Medical Arts Bldg.
T. A. Hartgraves ..... Morningside Hospital
G. E. Hartshorn ..... 608 New Daniels Bldg.
M. O. Hart ..... 708 Medical Arts Bldg.
T. M. Haskins ..... 336 Richards Bldg.
DeZell Hawley ..... 1215 Atlas Bldg.
C. T. Hendershot ..... 507 Medical Arts Bldg.
F. W. Henderson ..... 304 Medical Arts Bldg.
Marvin D. Henley ..... 911 Medical Arts Bldg.
C. C. Hoke ..... 901 Petroleum Bldg.
O. M. Holliday ..... 1744 E 13th Place
J. S. Hooper ..... 317 Medical Arts Bldg.
M. A. Houser ..... 608 Tulsa Trust Bldg.
W. A. Huber ..... 1114 Medical Arts Bldg.
L. T. Jackson ..... 212½ South Main St.
Chas. D. Johnson ..... 1116 Medical Arts Bldg.
W. M. Jones ..... 204 Medical Arts Bldg.
H. B. Justice ..... Tulsa Trust Bldg.
Harry Paul Kemmerly ..... 902 Medical Arts Bldg.
S. H. Kimmons ..... 203 E. 8th St.
Phillip Kline ..... 428 McBirney Bldg.
W. S. Larrabee ..... 304 Medical Arts Bldg.
J. K. Lee ..... 215 Medical Arts Bldg.
D. W. LeMaster ..... 902 Medical Arts Bldg.
W. G. Lemmon ..... 510 Medical Arts Bldg.
Morris B. Lhevine ..... 1007 Medical Arts Bldg.
P. A. Mangan ..... 713 Mayo Bldg.
Bertha Margolin ..... 215 Medical Arts Bldg.
P. H. Mayginnis ..... 315 Palace Bldg.
W. F. McAnally ..... Carter Oil Co.
L. A. McComb ..... 801 Medical Arts Bldg.
D. M. McDonald ..... 114 E. 6th
J. E. McDonald ..... 807 S. Elgin
Ralph A. McGill ..... 1010 Medical Arts Bldg.
H. J. McGuire ..... 1235 S. Boulder
Malcom McKellar ..... 604 S. Cincinnati
Geo. H. Miller ..... 215 Atlas Bldg.
J. L. Miner ..... Springer Clinic
Silas Mohrman ..... 611 New Daniels Bldg.
H. D. Murdock ..... 1011 Medical Arts Bldg.
P. G. Murray ..... 506 Medical Arts Bldg.
S. Murray ..... Medical Arts Bldg.
F. S. Myers ..... 302 Richards Bldg.
J. J. Nabhan ..... 306 Bliss Bldg.
J. H. Neal ..... 301 Roberts Bldg.
F. L. Nelson ..... 614 New Daniels Bldg.
I. A. Nelson ..... St. John's Hospital
M. O. Nelson ..... 307 Medical Arts Bldg.
E. P. Nesbitt ..... 917 Medical Arts Bldg.
P. P. Nesbitt ..... 917 Medical Arts Bldg.
Geo. Norman ..... 2543 E. Admiral
L. C. Northrup ..... 410 McBirney Bldg.
C. F. D. O'Hern ..... 501 Medical Arts Bldg.
Geo. Osborn ..... 801 Medical Arts Bldg.
J. C. Peden ..... 612 Medical Arts Bldg.
J. T. Perry ..... 417 McBirney Bldg.
M. L. Perry ..... 417 McBirney Bldg.
Sid Perry ..... 1107 Medical Arts Bldg.
E. W. Peterson ..... 823 Wright Bldg.
A. W. Pigford ..... 1001 Medical Arts Bldg.
R. C. Pigford ..... 1001 Medical ArtsBldg.
L. C. Presson ..... 902 Medical Arts Bldg.
Harry Price ..... 407 Medical Arts Bldg.
W. V. Pruett ..... 915 Medical Arts Bldg.
K. C. Reece ..... 604 S. Cincinnati
J. L. Reynolds ..... 812 Medical Arts Bldg.
J. M. Reynolds ..... 207 Atlas Life Bldg.
T. R. Roberts ..... 2647 E. 7th
J. W. Rogers ..... 407 Medical Arts Bldg.
W. H. Rogers ..... 505 New Daniels Bldg.
A. W. Roth ..... 607 Medical Arts Bldg.
R. E. L. Rhodes ..... 509 Medical Arts Bldg.
S. M. Richey ..... 1304½W. 17th St.

Emille Roy ..... 608 Palace Bldg.
F. E. Rushing ..... 505 Medical Arts Bldg.
M. J. Searle ..... 901 Medical Arts Bldg.
S. C. Shepard ..... 603 Medical Arts Bldg.
R. G. Sherwood ..... 208 Masonic Bldg.
W. A. Showman ..... 409 Medical Arts Bldg.
C. F. Simpson ..... 310 Medical Arts Bldg.
M. E. Sippel ..... 216 Medical Arts Bldg.
Wade Sisler ..... 807 So. Elgin
D. O. Smith ..... 604 So. Cincinnati
N. R. Smtih ..... 703 Medical Arts Bldg.
R. N. Smith ..... 1017 Medical Arts Bldg.
R. R. Smith ..... 403 N. Daniels Bldg.
R. V. Smith ..... 607 Medical Arts Bldg.
W. O. Smith ..... 915 Exchange Nat'l Bk. Bldg.
M. P. Springer ..... 604 S. Cincinnati
T. W. Stallings ..... 114 W. 4th St.
H. B. Stewart ..... 1516 E. 21st. St.
Leon H. Stuart ..... 604 S. Cincinnati
James Stevenson ..... 616 Medical Arts Bldg.
C. S. Summers ..... 505 New Daniels Bldg.
W. J. Trainor ..... 1011 Medical Arts Bldg.
I. N. Tucker ..... 702 Medical Arts Bldg.
V. L. Turrill ..... 203 Richards Bldg.
David J. Underwood ..... Mayo Bldg.
F. L. Underwood ..... 1001 Medical Arts Bldg.
D. R. Venable ..... 411 Medical Arts Bldg.
S. C. Venable ..... 411 Medical Arts Bldg.
A. G. Wainright ..... 424 McBirney Bldg.
J. E. Wallace ..... 914 Medical Arts Bldg.
G. A. Wall ..... 902 Medical Arts Bldg.
F. L. Watkins ..... Board of Education
D. W. White ..... 311 Medical Arts Bldg.
N. S. White ..... 404 Medical Arts Bldg.
P. C. White ..... 311 Medical Arts Bldg.
A. Ray Wiley ..... 812 Medical Arts Bldg.
C. Z. Wiley ..... 812 Medical Arts Bldg.
E. K. Witcher ..... 909 Medical Arts Bldg.
R. B. Witcher ..... 909 Medical Arts Bldg.
Chas. J. Wood ..... 511 Medical Arts Bldg.
H. F. Zink ..... 415 Security Bldg.
Roy A. Zink ..... 415 Security Bldg.

WAGONER COUNTY

S. R. Bates ..... Wagoner
J. H. Plunkett ..... Wagoner
J. D. Leonard ..... Wagoner

WASHINGTON COUNTY

J. V. Athey ..... Bartlesville
E. E. Beechwood ..... Bartlesville
E. M. Chamberlin ..... Bartlesville
H. G. Crawford ..... Bartlesville
T. O. Crawford ..... Dewey
G. V. Dorsheimer ..... Dewey
F. S. Etter ..... Bartlesville
O. I. Green ..... Bartlesville
L. D. Hudson ..... Dewey
W. H. Kingman ..... Bartlesville
J. D. Kiser ..... Bartlesville
Wm. LeBlanc ..... Ochelata
S. M. Parks ..... Bartlesville
W. E. Rammel ..... Bartlesville
F. C. Rewerts ..... Bartlesville
W. H. Shipman ..... Bartlesville
J. G. Smith ..... Bartlesville
O. S. Somerville ..... Bartlesville
B. F. Staver ..... Bartlesville
C. K. Tillison ..... Ramona
J. P. Torrey ..... Bartlesville
J. P. Vansant ..... Dewey
H. C. Weber ..... Bartlesville
C. J. Wells ..... Bartlesville
G. F. Woodring ..... Bartlesville
M. G. Wyatt ..... Bartlesville

WASHITA COUNTY

B. W. Baker ..... Cordell
D. W. Bennett ..... Sentinel
A. H. Bungardt ..... Cordell
C. Doler ..... 4304 Palmyra St., New Orleans, La.
I. S. Freeman ..... Rocky
B. R. Gayman ..... Foss
J. H. Harmes ..... Cordell
J. P. Jones ..... Sentinel
A. S. Neal ..... Cordell
A. S. Stoll ..... Foss
C. B. Sullivan ..... Colony
C. M. Tracy ..... Sentinel
E. S. Weaver ..... Cordell
A. Webber ..... Bessie

WOODS COUNTY

H. B. Ames ..... Alva
Geo. N. Bilby ..... Alva
J. A. Bowling ..... Alva
E. P. Clapper ..... Waynoka
D. B. Ensor ..... Hopeton
E. A. Grantham ..... Alva
A. E. Hale ..... Alva
R. L. Hall ..... Waynoka
J. E. Hammer ..... Kiowa, Kans.
Isaac S. Hunt ..... Freedom
C. L. Rogers ..... Dacoma
B. W. Saffold ..... Freedom
W. E. Simon ..... Alva
Wm. H. Smedley ..... Capron
O. E. Templin ..... Alva
Geo. R. Waite ..... Kiowa, Kans.

WOODWARD COUNTY

E. L. Bagby ..... Supply
Wm. J. Bamber ..... Arnett
A. J. Brace Vici
G. W. Buckmaster ..... Beaver
E. F. Camp ..... Buffalo
H. S. Cockerill ..... Mooreland
W. C. Darwin ..... Woodward
T. E. Dixon ..... Mooreland
T. C. Duncan ..... Forgan
R. L. Edmonds ..... Sayre
C. J. Forney ..... Woodward
H. B. Hall ..... Woodward
H. K. Hill ..... Follett, Texas
G. E. Irwin ..... Gage
K. M. Kerr, 1128 Sandusky Ave., Kansas City, Ks.
T. C. Leachman ..... Woodward
O. C. Newman ..... Shattuck
G. A. Nyland ..... Gate
O. A. Pierson ..... Woodward
W. L. Rose ..... Woodward
C. R. Silverthorne ..... Woodward
T. B. Triplett ..... Mooreland
H. Walker ..... Rosston
D. Watts ..... Laverne
J. C. Whitacre ..... Elks Club, Memphis, Tenn.
C. E. Williams ..... Woodward